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ENVIRONMENTAL MANAGEMENT AND LOCAL GOVERNMENT

Steve Carter, et al

International City Management Association

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ENVIRONMENTAL MANAGEMENT AND LOCAL GOVERNMENT

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SECTION I

CONCLUSIONS

Environmental programs have become a major function for federal, state, and local governments with respect to the investment of financial and staff resources. Programs range from retitling existing programs in the language of the environmental movement, to adding specific programs aimed at improving the environment, e.g., upgrading a sewage treatment plant, to reassessing the broad range services with regard to their potential for improving or degrading the environment, such as through environmental impact assessment.

While local governments have traditionally exercised responsibility for many environmental programs, recent programs have resulted in increased management problems. Demand for new spending, need for new staff expertise, new political pressures, and the search for comprehensive and long-range solutions are some of the added burdens on local officials. Forced to seek new tools, local governments have little experience from which to draw. New ideas attempted by a local government will most likely not become widely known. When information about new programs is disseminated, seldom is any systematic evaluation available. As a result, the role of local governments and their problems and needs cannot be defined accurately. This not only retards the effectiveness of local governments, but also of state and federal environmental programs, which recently have had greater impact on local environmental activities.

In 1973 a survey of municipalities with 10,000 and over population and counties over 50,000 was conducted, along with four field studies of local governments. Using the results of these studies this report discusses the environment as a policy issue, the wide range of programs used by local governments in securing and maintaining environmental quality, environmental relations with the federal and state governments, and problems in managing the environment.

ENVIRONMENT AS A POLICY ISSUE

Initiation of an environmental program depends on how local officials perceive the environment. Do they use a narrow or broad definition? How well do they understand environmental problems in their own community. What priority do they assign to it?

Definition of Environment

The term "environment", lacking a standard, accepted definition, has a wide range of meanings ascribed to it. The survey posed four alternative definitions of "environment." The first restricts the definition to the "natural environment" or the categories of pollution: "air, noise, sewage, solid waste, toxic substances, water." The second alternative broadens the definition slightly to add "energy, historical preservation, land use, open space, radiation, population, and wildlife preservation." The third adds to all of the above factors "aesthetics, health, housing, mass transportation, recreation, streets, and highways." The final definition is the broadest, reflecting a "quality of life" scope, adding "economic development, education, employment, public safety and welfare."

None of the four alternative definitions received support from more than approximately one-third of the respondents. More than half of the cities (57%) and counties (58%) viewed the environment in one of the two broader definitions. However, the lack of consensus may be a source of conflict, as officials in the decision-making process may not share a common perspective. Moreover, this difference would be reflected in the type of environmental programs adopted.

Severity of Environmental Problems

Local governments were asked to rate the severity of environmental problems-- aesthetics, air, growth, land use, noise, radiation, solid waste, wastewater, water supply -- in their community. Of the nine listed, land use was rated by cities as the most severe problem, with growth, solid waste, and wastewater tied for second. Counties rated solid waste as most severe, followed by land use, wastewater, and growth. Although it is assumed that the ratings of severity reflect the nature of the problem in the community, they may also be influenced by the specific legal authority and the availability of expertise to analyze environmental problems. Generally, however, the more severely a problem is perceived, the more likely a local government is to attempt to solve it.

Ranking the Environmental Issue

While the environment is an issue of increasing popularity, most local governments responding did not consider it one of their most important issues. Asked to rank crime, education, environment, housing/urban blight, taxes, transportation, and welfare in order of importance, only about one-third of the local officials responding ranked environment as either the most important or second most important issue facing them. They generally ranked taxes, housing and urban blight, and education as more important issues than the environment. However, the cities in the West ranked the environment as the most important issue, and suburban areas ranked the environment higher than Central cities. Local governments perceive the environment as only one of a number of major issues, suggesting that these programs do not enjoy a favored position in the competition for scarce local resources.

STATEMENT OF ENVIRONMENTAL GOALS OR POLICY

Concern for the environment as a policy issue may be expressed as a statement of environmental goals or policy, adopted by the city's legislative body or administration. Such statements provide general guidance for the entire city administration, covering the total range of municipal activities, and how they are developed and implemented.

Explicit statements of environmental goals or policies are not typical. Of those cities responding, 20% have adopted a statement while 23% have them under consideration. Twenty-seven percent of the counties have adopted statements and 24% have them under consideration. In general, larger local governments located in the West are more likely to have adopted statements.

ORGANIZATIONAL ASPECTS OF ENVIRONMENTAL MANAGEMENT

One of the fundamental tasks of environmental managers is to organize available resources to address specific problems. Because organizing involves the distribution of an agency's resources -- staff, budget, and authority -- it is a crucial determinant of program success. As local governments have assumed responsibility for various environmental programs, they have traditionally established distinct organizational units, e.g., sanitation department, water department. Other local departments with environmental responsibilities might include the planning department, health department, parks department, and inspection department. As a result, environmental activities are often fragmented between several agencies.

Three organizational alternatives were in the survey: a separate environmental department, a staff committee, and the designation of a single individual with environmental responsibility. The use of the single official with primary responsibility for environmental matters was cited by 40% of the cities and 48% of counties, exhibiting more popularity in the smaller cities, where staffs tend to be smaller and responsibilities tend to fall on a few individuals, and in the larger counties.

Twenty percent of the cities and 42% of the counties responding had a staff committee which meets regularly with the specific task of considering environmental matters. This committee may have responsibility for a wide range of environmental problems, or a more limited charge, such as the review of environmental impact statements. Ann Arbor, Michigan, and Inglewood, California, are examples of these two types of staff committees.

An environmental department or agency may take a variety of forms with the primary distinction being whether the unit is a separate department or part of another department. Twenty-three percent of the cities responding indicated having an environmental department or agency. Seven percent were separate units and 16% were part of another agency. Counties reported 18% and 37% respectively. Examples of existing environmental departments include: the New York City Environmental Protection Agency; Simi Valley (California) Environmental Services Department; Palo Alto (California) Environmental Planning Office; and Austin (Texas) Office of Environmental Resources Management. Dallas, Texas, and Inglewood, California, each have one environmental section in the planning department.

CITIZEN ENVIRONMENTAL COMMISSIONS

Citizen interest in the environment has been particularly demonstrative. Most recently, federal environmental legislation, such as the Water Pollution Control Act Amendments of 1972 -- has specified a major role for citizens.

Citizen boards or commissions are a common approach used by local governments to involve citizens. Predictably, the emergence of the environment as an important public issue has led to the creation of citizen environmental commissions. According to the survey, nearly one-fourth of the cities and 36% of the counties responding have created such commissions. Most of these commissions have a broad mandate to investigate environmental problems and advise the city; few had any enforcement power. Examples of citizen environmental commissions may be found in Dallas (Environmental Quality Committee) and Guilford County, N. C. (Advisory Board for Environmental Quality).

In addition, over half the cities and counties responding reported expanding the functions of an existing board or commission to include environmental functions. The commissions most likely to be expanded are the planning commission and the parks and recreation commission. The Community Environmental Commission in Inglewood, California, is an example of this approach.

STRATEGIES FOR MANAGING THE ENVIRONMENT

A variety of strategies or tools are available to local governments for dealing with environmental problems. Most of these strategies are "new" only because they have not been used specifically in response to environmental problems. Also, more recently, the focus of local programs has been to anticipate and prevent problems from occurring, rather than to solve them once they arise.

Most strategies are applicable to more than one specific environmental problem, although no one is sufficient to deal with the broad range of problems facing local governments. The tools examined in the survey are: a conservation or environmental section in the local master plan; land use controls; other environmental controls; environmental impact assessment; moratoria; tax incentives or effluent charges; and legal suits.

Environmental Section in Master Plan

While the master plan or comprehensive plan is one of the oldest tools for guiding urban development in use, only in recent years has there been a movement to include a conservation or environmental section. A comprehensive plan coordinates all of the elements that influence physical development. Clearly, environmental considerations deserve to be included on that basis.

When queried about the existence of an environmental section in the comprehensive plan of their respective cities, approximately one-fourth of those responding indicated the adoption of such a section. Nearly one-third of the local governments reported that such a section was currently under consideration. Inclusion of an environmental component is most common in the Northeast (40%), and is under consideration most often in the West (48%). The latter case is due in large part to a California state law requiring local governments to include such an element in their plans.

Land Use Controls

One of the strategies most frequently utilized by local governments in managing the environment is land use control. While an extensive number of land use controls exist across the country, the survey identified nine controls to test the rate of utilization. The nine were architectural appearances, flood plain zoning, growth limitation, historical preservation, marshland controls, open space zoning, required installation of public facilities by developers, dedication of land for public purposes by developers, and zoning to protect the natural resources.

The required installation of public facilities (e.g., sewers) by developers was reported by 83% of the cities and 51% of the counties. The type of facilities required was not reported. The second highest rate of utilization by cities was for open space zoning (48%), reported by 36% of the counties. It is unclear, however, whether open space zoning was understood to also refer to preservation. Nearly one-half of the cities required dedication of land for public purposes (e.g., schools, parks, streets) by developers and have adopted flood plain zoning. Counties reported 29% and 33% utilization respectively. Other land use controls were used less frequently.

Other Environmental Controls

A number of other regulatory controls are available to local governments for addressing environmental problems. They were asked to identify which of the following nine additional controls had been adopted by their community: abandoned vehicle ordinance, tree preservation ordinance, erosion control ordinance, grading (excavation) ordinance, housing code, noise ordinance, restriction on nonreturnable bottles, sanitation (refuse) ordinance, and sign ordinance.

The highest city utilization rate (84%) was shared by three controls: sign ordinance, sanitation ordinance, and abandoned vehicle ordinance. A large number of cities (80%) reported adoption of a housing code. The only other control approaching 50% utilization was the grading ordinance, acknowledged by 43% of the cities responding. The only control reported by over one-third of the counties was the sanitation ordinance (49%).

Environmental Quality Standards

With an increased role for the federal and state governments in setting environmental quality standards, many cities have eliminated their environmental standards or have not developed any. Some states prohibit local governments from adopting their own standards. The cities' role is stronger, however, in those areas where they maintain some program functions, such as water and sewerage systems. In some cases, e.g., air pollution, counties serve as the enforcement agents for the state.

The survey results reflect these conditions. Of the cities responding, 53% have adopted sewerage standards and 43% water standards, but only 18% have officially adopted noise or air quality standards. Forty-one percent of the counties have adopted sewerage standards, and 31% air and water standards. Only 6% have adopted noise standards. The results also indicate instances where standards are not being monitored or enforced.

Environmental Impact Statement (EIS)

A number of local governments have developed their own procedures for evaluating the environmental impact of projects. According to the survey results, 30% of the cities and 35% of the counties responding have formal requirements for environmental impact statements. However, only 17% of non-western cities have some form of EIS requirement compared to 70% of the western cities. Western counties also dominate the use of EIS.

While the processes used by most local governments are similar, there is some variation in the types of projects requiring impact statements. Criteria used to determine whether a statement must be prepared include: public or private in origin, dollar value, number of dwelling units, and type of action required by the local government. Survey results indicated that most local governments require statements on private projects as well as public ones.

These results reflect the California EIS experience, where the California Environmental Quality Act requires local governments to prepare impact statements on both public and private projects.

Moratoria

Nearly one-fifth of all local governments responding acknowledged imposing some type of moratorium within the past two years. In some cases the moratorium may be a temporary ban while a study or a facility is being completed. In other cases, however, where the problem may be seen as long term, the ban may be for a longer time.

The refusing of building permits is the most common type of ban imposed, followed by prohibiting water and sewer connections and denying requests for rezoning. Examples of moratoria are: Phoenix, Arizona -- ban on building permits in a proposed open space area; Fairfax County, Virginia -- refusing water and sewer permits in areas with inadequate treatment capacity; and, several California cities -- denying requests for rezoning until EIS procedures could be developed. In Dade County, Florida, a general moratorium authority has been enacted allowing the county manager to declare a moratorium when necessary.

Although moratoria may be considered an admission by local officials that previous planning or other programs have been ineffective, their use may prove valuable if the delay is used to analyze alternatives and to develop effective programs, rather than merely postponing the resolution of the problem. Their use frequently occurs as a result of a crisis, and in those circumstances is probably least open to criticism.

Economic Incentives and Effluent Charges

The survey disclosed that only 3% of the cities and 9% of the counties responding use the tax incentive-subsidy approach. This low utilization rate may be due to a number of factors, including the uncertainty about what comprises an economic incentive. Other factors may include limited legal authority to adopt economic incentives, reluctance to give up scarce revenues and reluctance to "reward" pollutors.

Some local governments have been considering the reduction of property taxes (by decreasing the assessed valuation) for land not utilized at its maximum intensity, e.g., to encourage the maintenance of agricultural land as a means of controlling rapid growth. Other examples include exemption of pollution control devices from property tax and tax-free industrial revenue bonds for the purchase of anti-pollution equipment.

Effluent charges are based on the assumption that the environment is common or public property, and therefore any person or organization causing environmental damage must pay for it. These payments are based on the amount and content of the waste discharged. Effluent charges are presently being defined by many local governments with respect to sewerage surcharges and penalty fees. Almost one-quarter of the local governments indicated that they use effluent charges or some other system of taxes or fines. However, some may have interpreted this to include any environment-related ordinance that might result in a fine.

Initiating Law Suits

The courts have played an active role in environmental protection. Citizen-initiated suits against pollutors are becoming increasingly common, and some states such as Michigan, have enacted legislation designed to encourage these suits. Filing legal suits represents a strategy available to local governments as well. Of the cities responding, 10% claimed to have initiated at least one environmental law suit. Law suits were initiated by 14% of the counties responding.

Law suits may be seen as an essential aid to an enforcement program and for gaining compliance with environmental impact assessment procedures, but the process is slow and costly. Delays and appeals are likely, especially if the defendant has obtained an injunction against enforcement until the suit is settled. An example of an extensive environmental legal battle is the attempt by the City of Inglewood, California, to alleviate a severe aircraft noise problem.

Evaluation of the Effectiveness of Strategies

All of the strategies tended to be rated as effective rather than ineffective. Local governments utilizing a strategy consistently rated it more effective than non-users did. Cities and counties agreed on the four most effective strategies: land use controls, environmental quality standards, separate environmental agency, and economic incentives. Cities saw expanded citizen commissions as the least effective strategy, while counties awarded that honor to environmental impact statements and penalty (effluent) charges.

INTERGOVERNMENTAL RELATIONS IN MANAGING THE ENVIRONMENT

Environmental management has traditionally been a local responsibility. Throughout the twentieth century, however, there has been increasing environmental activity at the state and federal levels. As a result, the relationships between the federal, state and local levels have changed. These changes have resulted in conflict and uncertainty. In addition, efforts to solve environmental problems have led to the development of regional approaches, often resulting in the creation of another level of government and more changes in roles and responsibilities. The result is frustration and confusion.

City and county complaints about their relations with state and federal governments were similar, with many citing inadequate funding. There was greater criticism of the federal government regarding program administration. States were subject to greater criticism than the federal government with regard to conflicting or unreal standards, unreasonable enforcement measures, inadequate local participation in policy making, and inadequate technical assistance. The survey results verified the existence of widespread dissatisfaction.

One aspect of the interaction between local governments and the federal government concerns the participation of local governments in the federal environmental impact statement process. Many view the EIS process negatively -- 30% of those who have written or reviewed statements indicate they have had no impact and nearly one-half indicate they have consumed extensive staff time and delayed projects. But project improvement is cited by 19% of the cities and 28% of the counties who have written statements.

About half the cities and counties say they are having some difficulty meeting state or federal air or water pollution standards. Fifteen percent of the cities and 17% of the counties report being the object of an environmental law suit within the past two years. Nearly half the suits against cities were filed by state or federal agencies, although only 14% of suits against counties were by these agencies.

Local governments, however, seem to be quite satisfied with their contacts with EPA central and regional offices. Only 9% of the cities report their contacts with the central office are unsatisfactory; and the same proportion indicates dissatisfaction with their regional office contact. But smaller, Western, and suburban cities have both less contact and less satisfying contact with EPA. Only 8% of the counties rated their contacts with the central office as unsatisfactory, and 10% the regional office.

FACTORS AFFECTING DEVELOPMENT OF LOCAL ENVIRONMENTAL PROGRAMS

In order to determine the motivations of local governments to develop environmental programs, the survey asked local officials to identify the major factors contributing to and inhibiting the development of environmental programs. Nearly 70% of the cities and 77% of the counties responding indicated that state and federal requirements were a contributing factor. The factor "concerned officials" was the only one to receive a greater response (75%) by cities. Citizen support was another important contributing factor; 50% of the cities and 54% of the counties listed public support and 44% and 58% active environmental and civic groups respectively. Surprisingly, only 38% of the cities indicated state and federal financial incentives as a contributing factor, although 51% of the counties cited this.

The major obstacle identified by about 70% of the local governments was inadequate finances. Over half of the respondents mentioned fragmentation of responsibility between levels of governments. The third most important obstacle listed was the lack of expertise.

CONCLUSION

Local governments have been acting carefully and deliberately in the development of policies and strategies to implement them. As indicated by the survey results, there are many reasons for this. First, local officials have no clear concept of the environment; no simple definition exists. The environment is understood as a complex, interrelated problem requiring comprehensive, long range solutions. The environmental manager must develop new techniques and make organizational changes to gain effective utilization.

Second, environmental needs compete for scarce resources in local governments. New environmental programs require substantial funds for acquiring staff expertise or capital facilities, as do housing and education problems, among others.

Third, there is an absence of proven environmental strategies or tools. Efforts have refocused on existing tools, such as land use controls, because many cities have limited statutory capability for innovation. Even when strategies have been developed, there has been little evaluation of them or staff expertise employed to implement innovation.

Finally, there is confusion about roles and responsibilities among levels of government. This results in local frustration or inaction. Most cities will not initiate programs if anticipated actions at the federal or state level would cancel these efforts. For example, local governments will not adopt standards if they anticipate preemption of that function by the state. Or, local governments will wait to build sewage treatment plants until the federal government determines the necessary water quality standards and what funding assistance is to be made available.

These problems highlight the difficulties involved in managing the environment or any program area characterized by rapid change. The result is a period of transition where problems are reevaluated, policy redirected, new strategies selected, new resources identified, and strategies implemented.

SECTION II

SURVEY OF LOCAL ENVIRONMENTAL MANAGEMENT

A. Local Environmental Management: Forecasts and Change

Since their inception, local governments in America have carried out a variety of environmental functions. For nearly two hundred years, local governments have been broadening their environmental activities at a relatively leisurely pace generally in response to community needs. In the past few years, however, a grand environmental awareness burst unexpectedly upon the national scene. The original Earth Day, April 22, 1970, complete with teach-ins and rallies, was the first major indication of the popular strength of environmental concern, a concern that has already brought about significant changes in programs and institutions at all levels of government. The effect of the "environmental movement" has been to accelerate the wheels of change, resulting in major difficulties at the local level in managing the environment.

ANTECEDENTS TO CHANGE

Environmental programs traditionally have been part of the services provided by local governments since colonial times. The earliest functions provided were police and fire, followed closely by roads, wastewater disposal, water supply, and refuse disposal. The potential for health problems primarily motivated leading local governments to assume responsibility for these environmental services. Recorded environmental landmarks include the installation of sanitary sewers in Boston in 1823 and the adoption of smoke controls by Chicago and Cincinnati in 1881.

Local responsibility for environmental matters was altered little over the years. The scope of local programs remained essentially water supply, sewage disposal, solid waste and parks and open space. Most local governments were organized by major programs, so each of these areas was placed under the jurisdiction of separate and distinct departments, e.g., Water Department, Parks Department, and the like. Typically the duties of these departments were to provide sufficient service capacity. This translated into objectives such as having enough drinking water and being able to get rid of all garbage and sewage.

The early techniques used by local governments were not very sophisticated. At first, sewage was discharged directly into a nearby body of water without benefit of any treatment. Garbage was frequently burned. As new technology was developed, attempts were made to incorporate it into the existing operation. Of course this was not always the case. Unfortunately, it was not uncommon for local agencies to look upon environmental problems entirely from a local perspective. The effects of waste disposal upon neighboring communities were not always considered. In fact, as late as 1950 every major city on the Missouri River, including Kansas City and St. Louis, was discharging raw sewage into the river. Likewise, environmental programs were not frequently examined for the impact on other segments of the environment. The adequacy of local environmental programs became even more difficult to maintain in rapidly growing metropolitan areas.

As a result, there has been a trend since around 1950 toward greater state and Federal involvement in this once exclusively local sphere. In 1955 Congress authorized the Public Health Service to conduct research and provide technical assistance to state and local agencies in the area of air pollution. However, as late as 1961, only seventeen states and eighty-five municipalities had programs involving expenditures of $5,000 or more each year. Only six states were engaged in enforcement activities, the remainder confining their role to technical assistance and encouragement of local programs.* In 1963 Congress enacted the Clean Air Act enlargening the federal role in air pollution control. The Act provided for expanded research and training; grants-in-aid (up to two-thirds of the cost) to state and local agencies; and direct federal enforcement activities in certain defined interstate emergencies. Amendments in 1965 and 1967 authorized standards for automobiles, the designation of air quality control regions, state standards and implementation plans, and federal power to step in where state action is inadequate.

Similar steps were taken to meet water problems. The Water Pollution Control Act was passed in 1956 and amended in 1961 and 1965. The initial legislation encouraged state and local governments to step up their own efforts to combat water pollution through program grants and construction grants. Gradually the federal role was expanded to include establishment of water quality standards and implementation for all interstate and coastal waters.

Congress also responded to the solid waste problem with the Solid Waste Disposal Act of 1965. This Act provided for federal research, technical assistance, demonstrations of new technology, and grants for state and interstate solid waste planning programs.

In spite of the increased state and federal involvement in environmental programs, performance was still far from consistent. In a report to Congress in 1970, the following conditions were described:

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*John C. Bollens and Henry J. Schmandt. The Metropolis. (New York: Harper and Row, 1965), p. 325.

- "Less than one-third of the Nation's population is served by a system of sewers and an adequate treatment plant. About one-third is not served by a sewer system at all. About five percent is served by sewers which discharge their wastes without any treatment. And the remaining thirty-two percent have sewers but inadequate treatment plants."[*]

- "...of the fifty-five State and territorial [air pollution abatement] programs being financed by the grants of the program in 1970, only six have reached an annual per capita expenditure of twenty-five cents" (considered a minimum for state programs). "At the local level, --- sixty-four of 144 grantee agencies are spending at least forty cents per capita per year" (considered a minimum for local programs).[+]

- "[Solid Waste] disposal facilities are equally inadequate and antiquated." Estimates show that "ninety-four percent of existing land disposal operations and seventy-five percent of incinerator facilities are substandard."[‡]

While the occurrence of crises, the publication of sympathetic books (e.g., Rachel Carson's The Silent Spring) and the increased coverage by all the media have all contributed to public awareness and concern, it is likely that increasing personal experience with "sensory shocks" has been more effective in developing concern. Such shocks include burning eyes, smog-clouded scenery, waters banned for swimmers and fishermen, litter, contaminated food, the demise of natural areas falling wayside to new development, and the prospect of more and more people causing even greater environmental abuse and deterioration. These personal experiences seem verified by the results of contemporary scientific studies showing irreversible damage to wildlife, harmful chemicals in food and drugs, and so forth.

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[*] First Annual Report of the Council on Environmental Quality (U.S. Government Printing Office, 1970), p. 35.

[+] Ibid, p. 83.

[‡] Ibid, p. 106.

In a short period of time, the awareness and concern for the environment has been transformed into a potent political force. This has been demonstrated by the actions recently taken by voters in bond elections, elections for public office, and referrenda on environmental issues. In an editorial following the election in November, 1972, the Washington Post stated:

> Among other facts confirmed by the elections, it is clear now that concern for the environment is not the fad or passing whim many believed it was. In large numbers of elections--in states, cities and neighborhoods where the issues were not abstractions but community realities that people must live with--voters supported either the pro-environment candidate or the pro-environment referendum. Often, this support came in full awareness of the cost: environmental bond issues won in all parts of the country. New Yorkers approved issuance of $1.15 billion in bonds for anti-pollution measures, Washington state voters agreed to $265 million and Floridians $240 million.
>
> The more publicized environmental victories included the emphatic rejection of the 1976 Winter Olympics by Colorado citizens and the decision of Californians to preserve their coastline from over development. But less noticed triumphs also reveal the strength of the environmental movement. Senator Lee Metcalf's win in Montana, for example, suggested that his strong opposition to the strip mine, timber and power interests is shared by a majority of the voters. In Colorado, Senator Gordon Allott, whose interest in environmental cases can perhaps be measured by his support for the Olympic invasion, was defeated. In other races--for Senate, House and governorships--the League of Conservation Voters endorsed 57 candidates (35 Democrats and 22 Republicans) and 43 won...*

EXPANDED STATE AND FEDERAL EFFORTS

The increase in public concern over the environment precipitated a period of rapid and major change by federal, state and local governments. Highlights of federal actions include:

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*"The Environmental Veto," Editorial, Washington Post, November 19, 1972.

- .The National Environmental Policy Act of 1970, requiring environmental impact assessment of all federal projects
- .The Council on Environmental Quality, created in 1970 as an advisory body to the President
- .The Environmental Protection Agency, formed in 1970 consolidating fifteen programs previously vested in a dozen agencies
- .The Clean Air Act of 1970, setting national standards for air quality and empowering the federal government to implement them if necessary
- .The Water Pollution Control Act Amendments of 1972, creating a permit program for all dischargers of liquid waste (including municipalities), setting standards, and working toward a goal of "zero-discharge" of pollutants into waters by 1985.
- .The Pesticide Control Act of 1972, requiring all makers to register all pesticides with EPA
- .The Noise Control Act of 1972, authorizing noise emission standards for construction and transportation equipment, motors and engines and electrical devices
- .The Land Use Act of 1973, encouraging states to prepare state land use[National] plans, designating critical environmental areas for special control. [Legislation currently pending]

House Speaker Carl Albert reported that the 92nd Congress considered more than 150 bills dealing with the environment and natural resources, and more than ninety of them became law.

State governments have taken wide-ranging actions on environmental issues also. According to the Council of State Governments, nearly every state legislature enacted laws to protect or preserve environmental quality since 1970. Among the actions taken by June, 1973 are:

- .Fourteen states passed legislation protecting water, coastlands and shorelands
- .At least ten states adopted regulations on noise
- .Seven states guaranteed the right to clean air and water in their constitutions
- .Twelve states passed laws establishing overall land use regulations
- .Six states (Connecticut, Florida, Massachusetts, Michigan, Minnesota and Nebraska) allow citizens to file suit against pollutors
- .Several states enacted controls or bans on pesticides
- .Missouri, Arkansas, Colorado, Idaho, Illinois, Maryland, Ohio, South Dakota, and Tennessee enacted legislation regulating surface and strip mining
- .A number of states created special departments for environmental affairs
- .California adopted an Environmental Quality Act in 1970 requiring local governments to investigate the environmental impact of all projects, public and private

Other state programs include: air and water pollution control, regional solid waste disposal planning, and financial assistance to local governments for pollution control facilities.

LOCAL RESPONSE

As with the federal and state governments, public concern over the environment has had a tremendous impact on local governments. Many have proceeded to develop a varied assortment of environmental programs, plans, and controls. The actions of local governments, however, are not so easy to classify. Not only do the number, size, composition, and environmental needs of local governments promote diversity, but their officials hold different opinions and philosophies as well.

The recent environmental movement met with mixed reaction from local officials. Typical responses are: "We've been doing environmental programs for years before it became popular;" "we should not devote any more resources to physical problems at the expense of 'people' problems;" or "recognizing the importance of the environment was the best thing that ever happened."

The first response mentioned reflects the traditional role of local government in the environmental area as discussed earlier. This view not only emphasizes the length of time that local governments have been involved in environmental programs, but also the fundamental nature of that involvement--they live with the problems, deliver the service, and help pay for it.

Other local officials saw in the environmental movement an unwanted diversion from "people-oriented" social programs, which have been neglected so long in our urban areas. For those who feel the problems of poverty and racism to be the major unresolved problems facing the nation, environmental concern can be interpreted as another attempt to ignore the needs of the poor and the black.

A third set of officials were quick to realize the importance of the environmental issue as it exists in their community today and capitalized upon it for developing a new set of environmental programs. Some of these programs include:

.setting up an environmental unit within the organization
.adding environmental input to the planning program
.improving pollution control facilities
.increasing the efficiency of solid waste collection
.working with environmentally concerned citizens
.developing procedures for controlling growth
.evaluating the environmental impact of local activities

Even though the environmental movement has met with mixed reactions from local officials, it is generally seen as having a major impact on: (1) the role of local government, and (2) the role of local administrators. At a meeting in Minneapolis, local officials saw the potential impact of the movement on local government to be: "increased complexity of decision making;" "changes in resource allocation;" "require new technology;" "require personnel with new skills;" "greater citizen involvement;" "greater intergovernmental cooperation;" "creation of special purpose agencies;" "responsibilities assigned to higher levels of government;" "inclusion of quality-of-life factors in decision making."*

The perceived impacts of the environmental movement on the role of local chief administrators were: "more sophistication in the planning process;" "more patience;" "more information;" "increased coordination skills;" "technologist will threaten generalist manager."

It is clear that local officials anticipate the changes resulting from the environmental movement (although they may not personally agree with it). But how have local officials responded to the needed changes? What are their unsatisfied needs?

STATEMENT OF THE PROBLEM

Although local governments occupy a key position in environmental management, little organized data exists on environmental activities at that level. Information that does exist is usually related to a limited geographical area (one city or county) or is of a technical nature (e.g., solid waste routing techniques). This information gap is a handicap to federal, state and local governments in developing environmental policies and programs. For local governments, it means that they may remain unaware of potentially useful programs, or that they may expend valuable staff time in developing procedures that have already been painstakingly refined by another agency. Or, federal or state governments may develop programs to encourage or discourage a local activity without knowing what the impact of any new programs would be on local resources. This is especially important in an area such as the environment where changes are occurring so rapidly. Anticipating the development of additional environmental policies and programs at all levels of government, an informed understanding of local environmental management is essential for preventing duplication and assuring coordinated efforts.

PURPOSE AND SCOPE

The purpose of this study is to provide a broad overview of environmental management at the local level. This overview comprises a national perspective on the environmental policies, programs, problems, and needs of local governments. It does not attempt to evaluate or assess the success of particular programs in detail. With virtually no organized data on local environmental management, highest priority was placed on developing an overview. With this broad perspective in hand, research on individual programs and problems would then be more meaningful.

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*Discussions held at the Environmental Management Workshop, Annual Conference, International City Management Association, Minneapolis, September, 1972.

The focus of the study was the local chief administrative official--city manager, city administrator, chief administrative officer, mayor, county executive, etc.--and on the strategic role that this official plays in local environmental management. The position provides access to both the policy and administrative processes, and holds primary responsibility for devising management strategies for dealing with the environment.

OVERVIEW OF THE METHODOLOGY

The research was divided into three major tasks: (1) a conference discussion of environmental management; (2) a survey of local governments; and (3) field studies in four local governments. The conference discussion was conducted at a one-day workshop on environmental management as part of the Annual Conference of the International City Management Association. It was held in Minneapolis, Minnesota, in September, 1972. The purpose of the workshop was to identify key issues of environmental management and obtain guidance for the remainder of the study. The workshop agenda featured a role-playing exercise and discussions of various environmental problems, local environmental programs, and intergovernmental relations. The conference discussions were instrumental in establishing the framework for both the survey and the field studies.

The major areas selected for study were:

- attitude of local officials toward the environment, its meaning and priority
- environmental policy development
- organizational structure for handling environmental problems, including internal organization, organizing for citizen involvement, and intergovernmental relations
- environmental strategies or tools, including environmental impact assessment, comprehensive planning and land use controls, local regulations and controls for air, water, noise, etc., moratoria, legal actions, financial incentives and penalty structures, environmental quality standards

The survey consisted of an eight-page questionnaire which was mailed to the chief executive officers in all cities over 10,000 population and counties over 50,000 population. The survey was designed to provide a broad national perspective of environmental management in local government, covering the areas listed above. Complementary surveys were sent to selected federal officials and to the fifty states. A detailed description of the survey methodology can be found at the beginning of the following section.

In order to add depth to the broad perspective of the survey, a series of field studies was conducted in four localities of various sizes and geographic settings. These studies were not meant to be comprehensive studies of environmental activities in the four areas. Rather, they were aimed at providing an operational example of some of the strategies identified in the survey. The following areas were visited: Dallas, Texas; Inglewood, California; Miamisburg, Ohio; and the Piedmont-Triad area, North Carolina. Other program information from local governments was received with survey responses and is injected where possible. For additional discussion of the field study methodology, see the beginning of Section 2.

A project advisory committee consisting of four local administrators was formed to provide a practical and experienced perspective during the study. The committee was composed of Douglas Ayres, City Administrator of Inglewood, California; Richard Gray, City Manager of Norman, Oklahoma; Bert Johnson, County Manager of Arlington County, Virginia; and John Laney, City Manager of Miamisburg, Ohio. These officials participated in the study throughout its duration.

ORGANIZATION OF THE REPORT

This report is organized around the major research elements. Following this introduction, the survey of local environmental management is discussed. Relevant state and federal data are inserted when appropriate. The second section examines the four field studies. Using a format parallel to the first section, this section integrates the field studies into a single discussion. The tables of survey data and case studies written for each field study can be found in the Appendices of the respective sections.

B. Survey of Local Environmental Management

Introduction

Among the purposes of the Environmental Management project were to find out local officials' general perceptions of the environment; the actions or strategies local governments have adopted to manage the environment, their problems, and needs for the future; as well as their general evaluation of the alternative environmental management strategies that are available. To collect this information, an 8-page questionnaire with thirty-six main questions and a number of sub-parts (enough to fill 259 columns on the standard IBM card) was developed. (See Appendix 1 for the text of this questionnaire.)

After pre-testing the questionnaire on the fifty-member Research Advisory Board of ICMA, it was sent to the chief executives of the 2,272 cities over 10,000 population and the 639 counties over 50,000 population. Although the survey instruments sent to the cities and counties were identical, the response rates varied; the data from both are reported separately. Because of time and financial constraints, only two mailings of the questionnaire were made, the first in February 1973, and the second in April 1973. However, the response rate for this questionnaire, despite the reduced mailings and earlier deadline, is typical of other surveys conducted by ICMA. Almost half (49%) or 1115 of the cities responded, comparing favorably to the response rates for studies using the same size range of cities reported in the 1973 Municipal Yearbook.

The patterns for the response rates for this survey are also typical of other ICMA studies. Larger cities are more likely to respond than smaller ones, Western cities more than the other sections of the country, central cities more than suburbs or independent cities, council-manager cities more than mayor-council ones. The same pattern occurs for the counties. Table 1 shows the response rates for cities. *Despite the somewhat uneven distribution of responses, the fact that environment is rated as only the fourth most critical issue and that a number of the strategies are used by only a small minority of the cities or counties suggests that the results are not biased in favor of environmentally concerned or active cities. Table 2 presents the response rate for counties. Since the response rate for counties is considerably less--only 177 or 28% responding--the main emphasis of this report is on analyses of city data. County data in this report are usually reported in terms of agreement or disagreement with the city data.

*All Tables can be found in Appendix 2.

In addition to learning about local governments' perceptions and activities, one purpose of the project is to analyze the differences between the perceptions of local officials and those involved in environmental management at the state and federal levels. In order to discover the perceptions of these other officials, the basic questionnaire was revised and sent to the Governor of each state and to 49 federal officials. (See Appendix 3) The response rates for these questionnaires are small and unrepresentative (e.g., only nineteen states responded, and only two of these are among the ten largest states in the nation; only thirty-six federal official responses were received). But the perceptions of these state and federal officials may be indicative of patterns at these governmental levels and their responses are noted whenever relevant.

Besides the samples not being perfect replicas of the populations, several other limitations should be noted. Although the questionnaires were sent to the chief executive of the cities, counties, and states, this official may have delegated the responsibility to others in his office or in a relevant department. Similarly, the federal official may also have delegated it to a member of his staff. Therefore, data on perceptions -- such as evaluations of environmental management strategies -- reflect the views of the particular respondent rather than his governmental entity; different officials in the same jurisdiction might have different views. In addition, there is evidence that some respondents may have misinterpreted certain questions.

The report utilizes ICMA's standard definitions of region and metropolitan status. Four regions are used, reflecting those used by the Bureau of the Census. Unfortunately, these do not conform to the ten regions used by EPA. The *Northeast* is composed of New England states (Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut) and the Middle Atlantic states (New York, Pennsylvania, and New Jersey); the *North Central* is composed of: Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; the *South* includes the states of the South Atlantic (Delaware, Maryland, West Virginia, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, and Florida); the East South Central (Kentucky, Tennessee, Mississippi, and Alabama), and the West South Central (Oklahoma, Texas, Arkansas, and Louisiana); the *West* is composed of the Mountain states (Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico), and the Pacific states (Washington, Oregon, California, Alaska, and Hawaii).

City types also are derived from basic Bureau of the Census definitions; central cities are the central cities of an SMSA (Standard Metropolitan Statistical Area); suburbs are all other cities in an SMSA, and independent cities are all cities outside of an SMSA.

This part first examines the perceptions of environment as a policy issue. It then looks at several organizational elements for managing the environment. Following this, the utilization of alternative action strategies to manage the environment is examined and finally the evaluations of these alternatives are analyzed. A subsequent section looks at the factors perceived as contributing to the development of environmental management programs. Next, the survey responses concerning intergovernmental relations are analyzed. The penultimate section reports on the problems of the local governments and their chief executives in managing the environment. The last chapter summarizes the survey data and makes several observations about them.

C. Environment as a Policy Issue

Introduction

The perceptions of the environment as a policy issue are important for several reasons. First, these perceptions shape any action undertaken. A local government's policy, in part, depends on whether it perceives a problem as serious or merely of minor concern, and whether it perceives a problem in its narrowest dimensions or as one facet of a complex constellation of issues. Second, the degree of consensus of perceptions is one factor influencing the ability of units of government to work together. If there is consensus, then the likelihood of cooperation between governments at the same level (and governments at different levels) is greater. If there is little consensus at one level (or between levels), then the likelihood of misunderstanding or conflict increases.

This section of the paper examines four aspects of the environment as a policy issue. First, it focuses upon how the three levels of government, as represented in our samples, define the scope of the environmental issue. Second, it examines the local governments' perceptions of the severity of various aspects of the environmental problem--e.g., the severity of the problem of solid waste or air pollution. Third, it analyzes the ranking of the environmental issue compared to other issues, as perceived by the respondents from each of the three levels of government. Finally, this section looks at the development of a statement of environmental goals or policies as another indicator of the perception of the environment as an issue. These statements may merely be official general expressions on this policy issue, or, more importantly, they may serve as the foundation for a program of action.

DEFINITION OF ENVIRONMENT

Our questionnaire assumes great variation among local governmental officials' perceptions of the term "environment," and our survey results confirm the lack of consensus. Four alternative definitions of "environment" were posed, each increasing in the breadth of its coverage. The first choice restricts the definition to the "natural environment" or the pollution media: "air, noise, sewerage, solid waste, toxic substances, water." The second alternate definition broadens it slightly to include "energy, historical preservation, land use and open space, radiation, population, and wildlife preservation," as well as those aspects listed in the first definition. The third alternative adopts all the previously mentioned factors and adds more factors, largely reflecting elements of the "physical environment" including "aesthetics, health, housing, mass transportation, recreation, streets and highways." The last alternative is the broadest, almost reflecting a general "quality of life" scope; it includes all of the factors mentioned earlier, plus: "economic development, education, employment, public safety, and welfare."

None of the four alternative definitions receives support from more than approximately one third of the respondents (see Table 3). The narrowest definition is accepted by 17%, the next broadest by 26%, the next by 23%, and the broadest definition by 34%. This lack of consensus may be a source of conflict as the actors in the decision making process do not share a common perspective.

It is significant, however, that the cities are more likely to view environment in its broader dimensions--more than half (57%) select one of the two broader definitions, and less than a fifth (17%) restrict their definitions to the natural environment only. This suggests that proposals to manage the environment through regulation of elements which contribute indirectly to pollution (e.g., regulating land use in order to affect transportation patterns thereby reducing air pollution) would not be rejected on the grounds of having only remote relevance to environment; many city officials already view land use and transportation as part of "environment."

Some types of cities are more likely to view the environment broadly than other cities. Cities in the West are most likely to interpret environment broadly, while those in the Northeast define the term most narrowly. Central cities define it somewhat more broadly than suburbs or independent cities. This may generally reflect their broader responsibilities and more diverse programs, or it may actually reflect the specific content of each proposed definition (e.g., mass transportation is included as part of the third definition, and the largest cities--over 250,000 population--are most likely to select this definition). But there is no consistent relationship between the size of the city and how its officials define environment. Cities with a council-manager form of government view it slightly more broadly than those with the mayor-council form. This may stem from the managers' greater administrative responsibilities which make them a focal point for decisions on a wide range of issues, thereby reinforcing their view of environment as a complex and interrelated set of issues.

The same basic pattern occurs in the counties' responses, which also show little consensus. No one definition is cited by more than 38% of those surveyed. The respondents most likely to use the broad definition are Western counties, metropolitan counties, and counties with an administrator (see Table 4).

Our samples of state and federal respondents indicate the same pattern of little consensus among themselves and a preference for a broad definition of environment. Of the nineteen states responding, only one defines environment in the narrowest terms; almost three-fourths (74%) divide equally between the two broadest definitions. Similarly, only 8% of the federal respondents see environment in its narrowest dimension, while 44% choose the broadest definition, and another one-third choose the next broadest. The broad perspective of the federal respondents is surprising since the legislative mandates of most of the agencies are specialized rather than general.

Although there are differences among the officials responding to this question, a majority of each group indicates a preference for a broad definition of environment as a policy issue. The different levels of government, therefore, show a greater similarity of perspective than might have been expected given their varying mandates and constituencies.

SEVERITY OF ENVIRONMENTAL PROBLEMS

The cities were asked to rate the severity of nine environmental problems in their community on a 5-point scale from no problem (1) to severe problem (5). The nine problems in the order of the mean severity scores are:

	PROBLEM	MEAN
1	land use	(3.3)
(2)	growth	(3.2)
(2)	solid waste	(3.2)
(2)	wastewater	(3.2)
5	aesthetics	(2.8)
(6)	noise	(2.4)
(6)	water supply	(2.4)
8	air	(2.3)
9	radiation	(1.2)

The problem of land use--although not specifically defined in the questionnaire or by the respondents--is ranked as the most severe problem by all size categories, by all regions except the Northeast, by metropolitan cities, and by council-manager cities. The only other problems ranked as most severe by any category of cities are solid waste and growth (see Table 5).

The solid waste problem shows the greatest variations in scores across any categorization of cities--the average rating in the West for that problem is 2.7 compared to an average of 3.6 for the Northeast. In the West solid waste is ranked sixth in importance as compared to the Northeast which on the average ranks it as the most serious problem. In this case, the severity of the problem may be more a function of available land for land-fill than of the size of the city, in view of the fact that the average severity score assigned to the problem does not vary with the population classification of the cities.

Air pollution is the only problem that varies directly with population; the larger the city the higher the average severity score for the problem. This is to be anticipated because of the concentration of sources of air pollution--automobiles and industries--in population centers.

Although none of the other environmental problems varies with population size, a composite score of the average severity scores does indicate that the larger cities face (or perceive that they face) more severe environmental problems. The average severity scores for the three largest city-size groups are 2.78, 2.70, and 2.72 respectively, while for the next three groups they are 2.67, 2.67 and 2.63. Other differences in the composite average severity score indicate that council-manager cities rate their environmental problems more severely than mayor-council cities (2.69 and 2.58 respectively), and metropolitan areas more severely than independent cities (2.68 for central cities, 2.67 for suburbs, and 2.61 for independent cities).

The results for the responding counties are basically similar but show some variations from the city response. The ordering and average severity scores for the counties are:

PROBLEM		MEAN
1	solid waste	(3.7)
2	land use	(3.6)
3	wastewater	(3.5)
4	growth	(3.3)
5	water supply	(2.8)
6	aesthetics	(2.7)
7	air	(2.5)
8	noise	(2.3)
9	radiation	(1.2)

The greatest differences are the higher severity scores for solid waste and water-supply problems for the counties.

For the counties, both air and noise pollution vary directly with city size. There is a slight tendency for the larger counties to rate the severity of their problems higher. Metropolitan counties also rate their problems as more severe (see Table 6).

Although it is assumed that rankings of severity reflect the nature of the problem in the community, they may also reflect the extent of authority and expertise available to determine the nature of problems. Land use is controlled by the local governments and they report they have expertise in that area. Similarly, the counties' rating of air pollution as more severe and noise as less severe than cities may reflect the locus of control for these forms of pollution rather than the extent of the problems.

COMPARATIVE RANK OF ENVIRONMENT ISSUE

The environment as an issue has increased in importance in recent years at the national and state levels as well as in many local communities. Nevertheless, most cities responding to the survey do not consider it one of their most important local issues. Only about one-third of the respondents rate the issue as the most important or second most important issue facing their cities (see Table 7). Cities generally rate taxes, housing and urban blight, and education as more important issues; environment ranks fourth overall (see Table 8).

Environment is of greatest concern in the West--which is the only region where cities rank it as the most important issue. Almost half (44%) of the responding cities in the West rank it first or second in importance, while only 11% rank it sixth through eighth. Responses to other questions also indicate the Western cities are more likely to perceive various environmental problems (e.g., air pollution) as more serious than the other regions; it appears that their concern may be more recent than some of the other regions as they have initiated certain strategies and organizational forms more recently. The larger cities are less likely to rate environment as one of the two most important issues and more likely to rank it at the bottom of the list.

There is a contrast in the ranking of environment and other issues depending upon the metropolitan status of the cities. Suburbs rank the issue higher than do the central cities (cities independent of a metropolitan area rank it between the other two city-types). The suburbs give the environment issue their third highest mean ranking at 2.8, compared to independent cities giving their fourth highest mean at 2.9, and the central cities placing it fifth among the issues with a mean rating of 3.2. Although the environment issue affects us all--those living in the inner city as well as suburbia--the press of other issues in the central cities places environment lower in the hierarchy of issues.

The consistently high rankings given taxes as a local issue suggests that environmental programs may have difficutly gaining approval when their costs become known, or that financial support for local environmental programs must come from state or federal sources. On the other hand, judging from local environmental bond elections, [and from the public opinion survey noted earlier] the public seems to accept greater expenditures for environmental purposes at this time.

It should be noted that many cities (20%) took the opportunity afforded them by the questionnaire to add their own issues to our list of seven issues. Among the problems specified as important are liquid and solid waste disposal and others directly related to environmental problems, such as land use. If these responses had been recoded as "environment," that issue would probably have ranked higher.

In contrast to the local governments which often have other priorities, the state and federal respondents rate the environment as the most important issue with mean ratings of 2.2 and 3.1 respectively. With regard to taxes, state respondents place it as the third most important issue (with a mean rating of 3.0), while the federal administrators rate it as tied for least important of the seven issues (with a mean rating of 5.0).

This comparison of rankings of various issues suggests that if these patterns are truly reflective of the views of all city and state chief executives and federal agencies involved in the environment area, then the potential for conflict is great. Local governments may be reluctant to undertake expensive environmental management programs, while state and federal officials may not understand this reluctance given their relative perception of the issues.

STATEMENT OF ENVIRONMENTAL GOALS OR POLICY

The adoption of a statement of general environmental goals or policy may be no more than an official expression of the environment as a policy issue, or it may be the first logical step in the development of a plan for managing the environment. Regardless of its intent or use, and regardless of the issue, explicit statements of goals are not typical for local governments. Adoption of a statement of general environmental policy principles or goals is no exception. Relatively few cities, only one-fifth, indicate they have adopted a statement. But a larger number--approximately 23%--report that it is under consideration by city officials (see Table 9).

Goals or policy statements are more likely to have been adopted by the larger cities--32% of the cities over 100,000 compared to 19% of the other cities. Central cities, regardless of their size, are also more likely to have adopted them. Western cities show the highest use (37%), although they are more recent converts than other cities--63% of them adopted environmental goals or policy statements in 1972 or 1973, compared to 31% for the other regions. In fact, 45% of all cities adopted them in 1972 or 1973. The recent use of this action is also illustrated by the fact that only 20% of the cities which adopted statements did so prior to 1970. Larger cities, central cities, and mayor-council cities were more likely to be early adopters than smaller, suburban or independent, and council-manager cities (see Table 10).

The counties responding to our survey report a slightly higher use (27%) and contemplation (24%) of statements of environmental policy or goals than was shown by cities. Their responses also indicate recent adoption

(37% since 1972 and only 24% prior to 1970). Again, in the West, counties indicate the most frequent use and also the most recent adoption. No counties indicate adoption of such statements prior to 1970. Metropolitan counties were earlier and more frequent users than non-metropolitan counties (see Tables 11 and 12).

SUMMARY

When representatives of local and state governments and federal agencies are asked which of four definitions of environment they prefer, there is little consensus. No definition is endorsed by a majority of any set of officials. But the two broader definitions are more likely to be endorsed than the two narrower ones. State and federal respondents are especially likely to choose the broader definitions.

The two environment problems seen as most serious by the cities and counties are land use and solid waste, although not all parts of the country or types of local governments necessarily rate only these problems as the two most serious ones. Local officials' recognition of land use problems as serious suggests that its contribution to environmental conditions and the role of land use regulations in safeguarding or managing the environment are also recognized.

Local governments see environment as only one of a number of serious local problems, usually ranking it as less important than other issues, especially taxes. But the state and federal respondents see environment as the most important issue and rank taxes lower (the federal officials' rank taxes seventh in priority). This suggests the possibility of conflict within local government between competing programs for the financial resources which are perceived of as scarce, and conflict between the local governments and other levels of government which do not share this perception of taxes as a critical issue and which see environment as the most important issue.

Few municipalities--only about one-fifth of the cities and 27% of the counties--have translated their perceptions of the environment as a policy issue, into an explicit statement of environmental goals or policy. However, many more local governments report they have it under consideration.

D. Organizational Aspects of Environmental Management

Introduction

Environmental management is not a new enterprise for local government, even though new attention is being given to it. One consequence of this ongoing activity is that a local government is likely to already have some existing organizational structure when an environmental management strategy involving programs of action is developed. What is frequently needed organizationally is a way to coordinate new and old programs. One focus of this section is to examine local governments' use of three alternate means of coordination -- specifically, the creation of an environmental department, the use of a staff committee, and the use of an official designated as primarily responsible for environmental matters.

Another element of organizational structure that is receiving more attention in the 1970's than ever before, although it too has been an ongoing feature of local government decision making, concerns citizen participation. One means of facilitating citizen participation that involves an organizational unit is the use of citizen boards and/or commissions. The use of such boards and commissions is the second organizational aspect of environmental management examined in this section.

ORGANIZATION

Environmental management is marked by a fragmentation of responsibility. Even within a single jurisdiction, many agencies may be involved, yet each may have responsibility for only a portion of the environment (e.g., collection and disposal of solid waste, or treatment of liquid waste). The need for coordination, therefore, is great. A number of methods is available. Some local governments have created a single environment department which encompasses all or most of the functions previously carried out by many departments. Others may have created an environment department as an additional department or agency without major re-organization of existing departments. A third alternative is to expand the functions of an existing department so that it functions as an environment department. A different method of coordination is to have a staff committee which meets regularly with the specific task of considering environment matters. This committee may cover the entire range of environmental management problems, or it may have a more limited scope such as review of environmental impact statements. An alternative method of coordination is to focus responsibility for environmental management by designating a single official as having primary responsibility for environmental matters; this person may already be serving as the chief executive, be on the chief executive's immediate staff, or be the head of a department with some environmental responsibility. These alternatives are not necessarily mutually exclusive. It is possible for a city to indicate it has an environmental department and to designate its head as having primary responsibility, or for a city to have a staff committee playing a coordinating role but to designate its chief executive as having primary responsibility for environment matters.

The data on the cities' responses indicate a remarkably similar organizational pattern. Larger cities are more likely than smaller cities to have adopted each of the organizational alternatives, (e.g., almost half -- 49% -- of the cities over 100,000 report they have an environmental department or agency, compared to 21% of the smaller cities). This may reflect a greater need for coordination in larger cities, or a greater organizational sophistication (see Tables 13, 14 and 15).

Similarly the West is more likely to use each alternative than the other regions (with the South showing the lowest proportion of adoptions). For example, 31% of Western cities use a staff committee compared to 17% of the other cities. This differential between Western and other cities is the greatest for this alternative, and it may reflect the committee's utility in the environmental impact statement process that is required by California state law for public and private projects. But, in general, the larger acceptance of these organizational structures in the West may stem from their greater concern with the environment noted earlier in the discussion on the ranking of the environmental issue.

Metropolitan cities are more likely to use each of these alternatives than independent cities. For example, 34% of the central cities, 25% of the suburbs, and only 14% of the independent cities indicate the existence of an environmental department or agency.

The fourth classification of cities used throughout this study -- the form of government, primarily mayor-council cities compared to council-manager cities -- also shows a consistent pattern. The mayor-council cities are slightly more likely than the council-manager cities to use each of the alternatives (the proportions are 24% and 18% for staff committies, 26% and 22% for environmental department, and 43% and 40% for a designated official respectively). This may be a function of the other factors noted above, such as geographic variations, rather than of the governmental form itself.

Environmental Department

Environmental departments or agencies are reported by 23% of the cities. The primary functions ascribed to them cover a wide range of activities, and vary somewhat depending on whether the environmental agency is a separate department or part of another department. For instance only 26% of the cities with a separate department reports that one of its primary functions is interdepartmental coordination, compared to 56% of the cities whose environmental agency is part of another department. One explanation for this may be that once a separate department is created, environmental activities are reorganized so that it exercises the authority previously held by several departments, thereby eliminating the need for interdepartmental coordination. But, an examination of the functions assigned to the departments suggests this is not the case. Comparing the functions performed by separate environmental departments and by environmental agencies which are part of other departments indicates that separate departments are more likely than the other type to perform research (51% to 40%, respectively), to be responsible for program development (61% to 56%), and to have advisory functions (74% to 61%). They are less likely to be involved in planning (59% to 66%), inspection (61% to 64%), enforcement (41% to 65%), environmental impact assessment (44% to 60%), and interdepartmental coordination. Based on this data separate environment departments do not appear to be exercising the same role as environmental agencies within existing departments. Most separate agencies are not performing a complete range of functions that might be expected of them (see Tables 16 and 17).

The data also indicate that the existence of an environmental department or agency is a recent development. Sixty percent (60%) of the environmental departments have been created since the decade of the 1970's began. This tendency is strongest in the West (73%), and weakest among the central cities (32%) and the largest cities (37% of the cities over 250,000; see Table 18).

Staff Committee

The use of a staff committee which meets regularly to consider environmental matters specifically was reported by 20% of the cities. As noted earlier, it occurs most frequently in larger cities (32%), in metropolitan areas (24%), in the West (31%) and in the mayor-council form of government (24%; see Table 14).

Designated Official

A larger proportion of the cities report they have designated an official as having primary responsibility for environmental matters (40% of the cities, compared to 20% and 22% of the cities reporting the use of an environmental department and staff committee respectively). In one fourth of the cases, it is the chief executive (either the mayor or the city manager) who has been designated. This is most likely to occur in the smaller cities--e.g., in 40% of the cities between 10,000 and 25,000, but only 14% of the cities between 25,000 and 50,000, and 9% in cities between 50,000 and 250,000, and not at all in cities above that size (see Table 15). The chief executive in smaller cities often must play a larger role because of his limited staff, but it is also true that the smaller scope and scale enable the chief executives to do this (see Table 19).

An additional 9% of the cities utilize a staff member within the chief executive's office. Twelve percent (12%) of the cities report using the head of their environmental department or agency. This is more likely in the larger cities where the proportion of environmental department heads in cities over 500,000 who are the designated official is 50% (3 of 6). But, this proportion declines at virtually each size category until only 9% (or 8) of the 92 heads of environmental departments or agencies in cities between 10,000 and 25,000 are the designated official.

Approximately one third of the cities reporting a designated official use a non-environmental department head. Some examples of the department heads being used are: Planning, Health, Public Works, City Engineer, Community Development, Parks and Recreation, and Sanitation. Also, 12% use the environmental department head.

An additional 10% list other officials such as a particular staff position within a relevant department, for example a designated member of the Planning Department staff, and several reply that a city councilman was the designated official. An additional 10% do not specify the official who is designated (see Table 19).

The functions assigned to this official include both line functions such as carrying out operational responsibilities for environmental programs (51%) and supervising environmental activities (55%), and staff functions such as developing environmental programs (49%) and providing advice (68%). The functions assigned vary according to the designated official. The head of the environmental department is more likely to be responsible for each of these functions than are other departmental heads, a staff member in the chief executive's office, or even the chief executive himself. No clear relationship between the form of government and the type of functions emerges (see Table 20).

The data for the counties show some similarities and some differences. The three alternatives--an environmental department or agency, a staff committee, and a designated official -- are used by 55%, 42%, and 48% respectively, according to the counties responding to our survey. In each case, these proportions are higher than for cities. The relationship between size and use noted for cities is not as clear, but the largest counties (over 500,000) report more use of these alternatives than the smaller counties, and the smallest group polled (50,000 - 100,000) reports the least use. The West is still the most frequent user of the staff committee and designated official; the West trails the Northeast by one percentage point in the use of the environmental department. The difference for metropolitan status is not as clear. Counties with professional administrators are more likely to use each of these methods, in contrast to the cities where the mayor-council cities are more likely to use them (see Tables 21, 22, and 23). Each of the functions of the environment department noted in the questionnaire is used proportionately more frequently by the counties than by the cities (see Table 24). This is also true for the functions assigned the designated officer (see Tables 25 and 26).

CITIZEN BOARDS

Environmental legislation of the 1970's has included a strong role for citizen participation in the governmental process. For example, procedures for citizen participation play a key role in both the federal environmental impact statement process, as well as the implementation of the 1972 Water Pollution Control Act Amendments. Local environmental legislation has also been influenced by the precedent set in similar federal legislation. In part this reflects the attitudinal change that has occurred in the last decade relative to participation and responsiveness. But in part it reflects the nature of the environmental issue which is perceived as affecting the entire citizenry and not just a particular economic, racial, or regional group. The increased role for citizen participation is also a recognition of the strength and political influence of organized environmental interest groups.

Citizen participation may take place through a variety of means such as public hearings, or laws facilitating citizen-initiated suits. Another means of citizen participation is through citizen boards or commissions. These groups may play a variety of manifest and latent functions, which can range from actual decision making (such as the role of many planning commissions and zoning boards) to only an advisory role.

Since emphasis on the environment in local decision making is a relatively recent phenomenon, the survey focuses on whether cities are creating new citizen boards or commissions to deal with environmental issues or whether they are expanding the scope of already existing boards. These alternatives are not exclusive, of course, and it is possible for a city to do both (or neither).

The survey of cities indicates that more cities are likely to expand existing boards (51%) than to create new ones (24%) (see Tables 27 and 28). Boards most likely to have their functions expanded to include environmental matters are planning commissions, as was reported by more than three-fourths of the cities (79%) (see Table 29). Many cities feel that the agencies involved in planning should include environmental considerations in their work. Although this approach may not operate as well in developed cities where land use may be changing slowly, there does not appear to be any relationship between city size and the expansion of planning commissions. This expansion tends to occur more frequently in the West, which has more open space and a recent history of rapid growth.

Only 30% of the cities who mentioned expanding any board use community development boards. In some communities these boards may be concerned with economic development, in which case there may be considerable conflict between growth or expansion oriented objectives and environmental protection or enhancement objectives. It is interesting to note that the Western cities, which are most concerned with the environment, are the least likely to expand community development commissions (only 16% compared to 35% for the other regions); the South is most likely to do it (40%).

Another board frequently expanded is the park and recreation commission; 48% of those expanding citizen board functions used them. Although environmental management extends beyond planning of parks and the beautification mission, many cities feel they blend well with a general concern for the environment.

Other boards are also utilized. For example, 18% of the cities expanded the function of groups concerned with historic preservation. A number of other boards are mentioned, including conservation commissions, beautification boards, health advisory committees, and urban renewal and housing commissions. General advisory committees also frequently take on the additional area of the environment.

When new citizen boards are created, they are given a wide range of functions. Yet in only 14% of the cities were they given any enforcement functions. More frequently their functions include organizing community programs (42%), environmental education (56%), investigation of environmental problems (72%), and, of course, advising the decision makers (87%) (see Table 30). Some (21%) of the new boards are specialized--i.e., concerned with a specific environmental problem. Air pollution is the most frequent;

61% of the specialized new citizen boards deal with air pollution (see Table 31). Specialized boards are more likely to be found in larger cities than smaller ones; 47% of the cities over 100,000 who have new citizen boards compared to 17% of the cities between 10,000 and 100,000 (see Table 32).

The survey data indicate that the median size for these new citizen environmental commissions is seven, but the range extends from two to 250 (with a mean of eleven). The size of the board does not vary directly with the size of the city. The survey does not examine how these boards are appointed. But based on information furnished us, we know that the range of styles is great. Some communities attempt to make the board representative of the citizenry, while others try to ensure that all major local interests will have representation. Some cities use the same procedures for citizen environmental boards as they do for other citizen boards, while some cities have suspended residence or other requirements. Some cities require certain relevant scientific skills to be included, while others rely upon the citizens' interest in environmental matters.

Regarding county efforts, 51% expanded existing committees, while 36% created new boards (compared to 24% for cities). The data for the counties, like that of the cities, indicate that the South is least likely of the four regions to create new citizen boards and that the West is most likely to expand previous ones. Unlike the city data which indicate that council-manager cities are less likely to expand or create citizens boards, the county data indicate that counties with an administrator (compared to those without an administrator) are more likely to create new boards, but less likely to expand old ones (see Tables 33 and 34).

Counties, too, are likely to expand the functions of planning commissions -- 85% of the counties acknowledged expanding existing board functions (see Table 35). They are more likely than cities to create specialized boards; in fact, 49% of the new boards are listed as specialized. Air pollution again is the most likely area (60% of the new specialized boards), with solid waste the second most likely (54%). More county citizen boards are involved in enforcement than city boards; 27% compared to approximately half that -- or 14% -- for cities. This reflects their greater responsibility for regional enforcement of air and water quality standards and,subsequently, their greater use of specialized boards. County boards are less involved than the city boards in the other functions (see Tables 36, 37 and 38). Boards are slightly larger, with a mean of 19, with no apparent relation to the size of the county.

SUMMARY

This section has examined local governments' use of several alternative organizational forms, specifically the creation of an environmental department, the use of a staff committee, and the practice of designating an official as having primary responsibility for environmental matters. In addition, the use of citizen advisory boards was analyzed.

The responses from the cities indicate that the use of a designated official is most frequent (40%), and an environmental department or staff committee is used by only 23% and 20% of the cities respectively. Each alternative is more likely to be used by larger cities than small ones, by Western cities than those in other regions, by metropolitan cities than independent cities, and by mayor-council cities than council-manager cities. These alternative organizations are assigned a variety of functions.

Approximately half of the cities report they have expanded the functions of existing citizen advisory boards to include environmental matters. The unit most likely to have its scope expanded is the planning commission, although a variety of boards are being utilized by localities. Approximately one fourth of the cities have created new citizen environmental commissions; the latter have been encouraged in several states -- e.g. New Jersey, where environmental commissions are eligible for certain state funds. Citizen advisory boards perform a wide range of functions, although only 14% have enforcement functions. Approximately one fifth of the new boards are specialized, more frequently concerned with air pollution than any other environmental problem.

E. Utilization of Environmental Management Strategies

Introduction

One of the prime purposes of the survey was to learn what actions or strategies local governments have adopted to manage the environment and to find out how they evaluate these alternative program elements. These two aspects are examined through a series of closed-ended questions about the the use and evaluation of the programs and an open-ended question asking for the "most important or innovative actions or programs" the local government has undertaken in the last two years to improve or safeguard the environment. Data on the utilization of various techniques are analyzed in this section, while the data on the evaluations of the strategies are discussed in the following section.

The actions examined by the questionnaire and reported in this section include nine examples of land use controls, such as flood plain zoning, and another nine examples of additional controls potentially useful in promoting or safeguarding the environment, such as housing codes. In addition the local governments were asked to indicate whether or not they have:

--adopted a conservation or environmental section in their master plan,

--officially adopted, monitored, or enforced environmental quality standards,

--adopted a requirement for environmental impact statements,

--imposed a moratorium based on environmental considerations,

--used tax incentives or effluent charges as a means to manage the environment,

--initiated law suits regarding environmental matters.

Additional data from a recent ICMA study concerning the use of intergovernmental service agreements by local governments is also analyzed.

The utilization of these various techniques ranged from 1% of the cities reporting the use of an ordinance restricting non-return bottles, to 84% reporting ordinances concerning signs, refuse, and abandoned vehicles.

LAND USE CONTROLS

The questionnaire lists nine examples of land use controls and asks the local governments to indicate whether or not they have been enacted in their community. Of those responding to the questionnaire, enactment ranges from a low of 12% for marshland controls to a high of 83% for "required installation of public facilities (e.g., sewers) by developers." The average enactment or utilization rate for the nine controls is 35% (see Tables 39-40).

With the exception of some other types of controls examined (some of which could be considered land use controls), this utilization rate exceeds that of the other strategies. Land use controls apparently are a major approach for many cities in developing an environmental management strategy. Land use controls are also perceived by local government as highly effective in promoting and securing environmental quality (see the discussion of evaluations in the next section). It should also be noted that both of these findings agree with the results of the EPA-funded survey of planning agency officials done by the Center for Urban and Regional Studies of the University of North Carolina.*

The nine land use controls in rank order of cities reporting enact- of them (and county users reported in parentheses) are:

1. Required installation of public facilities (e.g., sewers) by developers--83% (51%). Western cities and central cities tend to have a higher proportion of adoption than other cities. The North Carolina report, which indicates 75% of their respondents have such requirements, reported a similar proportion of use.

2. Open space zoning--48% (36%). This is more frequently used by suburban cities than either central or independent cities; it is also most frequent in the West and North Central states and least likely to be used by the South. Since neither the questionnaire nor the cities elaborate on this tool, it is not clear whether open space zoning refers to publicly owned land or privately held land.

3. Required dedication of land for public purposes (e.g., schools, parks) by developers--47% (29%). The utilization rates are similar to the use of open space zoning; greater

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*Edward J. Kaiser, _et al._, _Promoting Environmental Quality Through Urban Planning and Controls_ (Chapel Hill: Center for Urban and Regional Studies, University of North Carolina, 1973), Ch. IV.

use by suburbs, Western and North Central cities, least use by Southern cities. There are a number of mechanisms used including dedication of land, actual development of a park, and a substitute financial fee placed into a trust fund for park development and maintenance (some cities reported fees of $200-300 per unit for such purposes).

4. Flood plain zoning--45% (38%). The North Carolina study indicated a similar utilization rate--42%. This tool is more likely to have been adopted by larger cities, 56% of the cities over 100,000 reporting it compared to 45% of the cities between 10,000 and 100,000 population, and by the cities in the Northeast and North Central regions of the country. A number of states are beginning to view flood plains as special zones requiring special treatment.*

5. Zoning for protection of natural resources or ecological systems--35% (33%). This device is most likely to be used by smaller cities and least likely to be used by central cities. But, it is not clear as to which natural resources or ecological systems are being protected, whether they are the specific object of the zoning, or whether their protection is a by-product of other zoning.

6. Architectural appearance--27% (11%). This tool to regulate the aesthetic element of the environment is most frequently used in the West (42%) and in suburban cities (35%). The North Carolina study, although it reports use by only 13% of their respondents, agrees with our findings of heavier use by non-principal cities in SMSAs (25%) compared to 8% by all others.

7. Historical preservation--23% (24%). This is a means of protecting only a small segment of the environment. Its use is heaviest in the larger cities (80% of the responding cities over 500,000 population, and 53% of cities over 100,000 population) which are usually

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*Roger B. Hansen, "Legal Devices for Planning and Land Use Control: A Basic Outline," a paper presented to the National Conference on Managing the Environment, May 14-15, 1973 (Washington, D.C.).

older cities. The abundance of older communities in the Northeast also accounts for its higher use there. Central cities are twice as likely to have such controls as suburban cities. These findings are also confirmed by the survey of planning agency directors which found use by 25% of all cities, but 56% of central cities in SMSA's.

8. Growth limitations--23% (12%). A "new mood" of public resistance to the idea that growth is both inevitable and desirable and increased public support for little or no growth were reported recently by a federal task force on land use and urban growth.* In a number of communities, referenda and public elections in which growth has been either a direct or indirect issue have been won by advocates of growth restrictions. A number of methods to limit growth are available and are being utilized by local governments. According to the data, suburban cities are most likely to adopt such controls (29%), but support for it is consistent throughout almost all of the classifications of cities used in this study.

9. Marshland controls--12% (12%). Use of these controls is most common in the Northeast (24%, compared to 8% for the other regions) and in the larger cities (19% of cities over 100,000 compared to 11% for the smaller cities). The survey of planning directors indicates use by 19% of them.

A number of other land use controls are cited separately by the respondents. For example, several note the use of the Planned Unit Development concept requiring the developer to plan his project as a small community. Agricultural preserves--limiting the tax rate on agricultural land on the urban fringe thus keeping it off the marketplace for developers--is noted separately by some, also.

A second question in the survey lists a potpourri of nine additional controls potentially useful in promoting or safeguarding environmental quality (see Tables 41-42). The controls in order of their rate of adoption by the cities (with the same data for counties noted in parentheses) are:

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*The Use of Land: A Citizens' Policy Guide to Urban Growth (New York: Crowell, 1973).

1. Sign ordinance--84% (31%). Its high utilization rate is almost uniform throughout all of the classifications of cities. The survey of planning directors also indicated considerable use--in 72% of the local governments.

2. Sanitation (refuse) ordinance--84% (49%). Its use is slightly more likely in larger cities (90% over 100,000), the South (93%), and the North Central area (87%), and slightly less likely in suburban communities (80%). Planning directors indicate use of "health/sanitation ordinances" in 78% of the communities.

3. Abandoned vehicle ordinance--84% (27%). The enactment of such ordinances is more likely to be found in larger cities (90%). It is least common in the Northeast, where only 76% of the cities report using such ordinances.

4. Housing code--80% (37%). Only six of the eighty-nine cities (7%) over 100,000 that responded to our survey do not indicate the use of a housing code. Use of codes is most common in central cities (96%) and least common in suburbs (74%); use is most likely in the South (89%). Planners in 73% of the agencies report its use.

5. Grading (excavation) ordinance--43% (24%). Its use is most common in the West (61%) and rarest in the South (26%), no doubt reflecting the topography of those areas. It is more likely to occur in suburban areas (53%) and least likely in independent cities (27%). The planning survey indicates use in 49% of the jurisdictions.

6. Noise ordinance--35% (8%). This control is apparently interpreted to refer to the nuisance-type regulations (i.e., those banning unreasonably loud noise) rather than the more complex one involving actual noise emission standards to be monitored and enforced. Twice as many cities report a noise ordinance than indicate the existence of local officially adopted noise standards (see the discussion of environmental quality standards below). Noise ordinances are more likely in metropolitan cities (40% of the central cities and 38% of the suburbs, compared to 28% of the independent cities). The North Carolina report mentions 30% utilization and two and one-half times more use in SMSA's than other cities.

7. Tree preservation ordinance--31% (10%). With the exception of the cities of over 500,000 and cities in the South (both of which had 20% utilization rates), the proportion of localities using these ordinances is

fairly constant across all categories of cities. The North Carolina report showed similar utilization rates with 37% reporting the preservation requirements as part of a set of subdivision requirements, and 25% reporting "tree ordinances."

8. Erosion control ordinance--16% (23%). Their use is most frequent in the West and Northeast (21%), as well as in suburban cities (21%). The North Carolina survey indicated a 25% utilization rate for "sedimentation/erosion controls."

9. Restrictions on nonreturnable bottles--1% (1%). Only fifteen cities and two counties report such bans.

An additional ordinance which is noted separately by a number of respondents involves controls on burning. The North Carolina survey indicates that more than two-thirds (68%) of their respondents report using it.

In summary, there are many land use controls that can be, and are being, brought to bear upon the problem of environmental protection or enhancement. Although many of them address only a portion of the problem, some of them address the basic roots of it. These controls, on the average, are more likely to be utilized than the other environmental programs discussed later in the remainder of this section. The greater utilization of land use controls may stem, in part, from the broad acceptance of the genre as traditional, and as a legitimate exercise of the "police powers." In addition, local governments report they have expertise in land use and this no doubt contributes to the more extensive utilization of land use controls as a means of managing the environment.

CONSERVATION (OR ENVIRONMENTAL) SECTION IN MASTER PLAN

"The general plan--variously known as the comprehensive plan, master plan, guide plan, development plan--is perhaps the oldest of the techniques for guiding urban expansion in use today."* But it is only in recent years that there has been a movement to include a conservation element or environmental section in the plan, thus bringing environmental factors into sharper focus for the local decision making process. It is part of an increasing philosophy that the comprehensive plan must go beyond merely the physical layout and consider the entire range of social values. Approximately one-fourth of the cities (27%) responding to the question of the master plan say it includes a conservation or environmental section; almost one-third (31%) say that it is under consideration (see Table 43).

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*F. Stuart Chapin, Jr., "Existing Techniques of Shaping Urban Growth," in H. Wentworth Eldredge (ed.), _Taming Megalopolis: Volume II, How to Manage an Urbanized World_ (Garden City: Anchor Books, 1967), p. 729.

Of the four regions, inclusion of an environmental component is most common in the Northeast (40%), and most often cited as under consideration in the West (48%). The latter is due, in large part, to a California state law requiring local governments to include such an element in their plans.* Metropolitan cities are more likely than independent cities to have either an environmental section in their master plan or to be considering it. There is no apparent relationship between city size and inclusion of the environmental section.

The data for the counties are very similar: 24% of those responding to the question have an environmental section in their master plan and an additional 43% have it under consideration. Southern counties lag behind the rest of the country in adoption or consideration of such an element; 47% of them have neither adopted it nor are contemplating it (see Table 44).

ENVIRONMENTAL QUALITY STANDARDS

"The establishment of standards is a crucial step in any pollution control program," suggests J. Clarence Davies III in his book The Politics of Pollution.+ They provide goals, a measuring stick to evaluate progress, and are a basis for determining what actions should be taken. Standards--whether they are merely statements of qualitative goals, or whether they are quantitative references to environmental quality or to emmissions and effluents--can be valuable as goals or "marching orders," to use Davies' phrase, even if they are not enforced. But when the standards are monitored and enforced, their effectiveness increases sharply. The question in the survey does not ask about the nature or content of the standards, but does ask whether the "municipality [has] officially adopted, monitored, or enforced environmental quality standards" in the areas of air, noise, sewerage, or water. The rate of adoption varies sharply, as might be expected. With an increased role for the federal and state governments in setting quality standards, many cities have dropped out

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[*] California Government Code, Section 65302, amended in 1970.

[+] J. Clarence Davies III, The Politics of Pollution (New York: Pegasus, 1970), p. 153.

of the field or have not entered it (and in some states they are prohibited from adopting their own standards). The cities' role is stronger and more independent, however, in those instances where they maintain their own systems, such as sewerage and water.

The situation frequently is different in the case of air and noise standards. Air pollution is very often tackled on a broader geographical base than the city--county and regional efforts are not unusual. Noise pollution on the other hand is more likely to be a problem in more developed areas (except where special land uses, such as airports, present a problem).

The survey results reflect these conditions. Of the cities responding to the questionnaire, 53% report having adopted sewerage standards and 43% having adopted water standards. But only 18% have officially adopted air quality standards, and the same proportion report adoption of noise standards. Almost two-thirds of the cities (62%) have adopted standards in at least one of the four areas, with a progression from 57% of the smallest city size category to 100% for the largest (see Table 45).

The data for counties indicate greater adoption of air quality standards--reflecting their greater role--with 31% of the counties responding to the questionnaire saying they have adopted air quality standards. But otherwise the counties are less likely to have adopted standards, with 41% having adopted sewerage standards, 31% water, and 6% noise. Half of the counties have adopted standards in at least one of the four areas (see Table 46).

The relationship between city size and air pollution noted earlier can be seen in this set of data, with the larger cities more likely to have adopted air quality standards. In specific numbers, 43% of the cities over 100,000 as compared to 16% for cities between 10,000 and 100,000 have adopted such standards. Central cities are more likely to report air quality standards (31%) than other cities. Cities in the North Central area are most likely to have adopted them (26%), while those in the West are the least likely (10%). The small number of Western cities which have adopted air quality standards is offset by the large proportion (70%) of Western counties who have.

Noise standards show no relationship to city size, but they do to county size. They are most likely to have been adopted in the West and in metropolitan areas.

Sewerage and water standards are more likely in larger cities than smaller cities, and occur most frequently in the South and in central cities.

As noted above, standards may be helpful even if they are not enforced. But the data indicate that there are a number of situations where municipal standards are not being monitored or enforced. For instance, the number of cities in which noise standards are "regularly monitored/measured" is only 39% of the number that have adopted noise standards; seventy-six report monitoring but 196 report adopting noise standards. The ratios of monitoring to adoption are higher for the other types of standards. The proportions are 86% for air pollution standards, 87% for sewerage, and 93% for water (see Table 47). It should be noted, however, that it is possible for more cities to be monitoring standards than to have adopted them, because some states reserve standard setting to themselves but delegate enforcement to the local communities. This is illustrated in the county data which indicate sixty-one counties report adoption of air pollution standards, but sixty-seven report regular monitoring/measuring air pollution standards (see Table 48). There is no consistent pattern for this "monitoring ratio," although the smallest cities generally have the lowest ratios, and the central cities generally have the highest.

The disproportionately low "monitoring ratio" for noise standards may be a realization that the caveats expressed in a recent NIMLO study are true. That study noted that (1) enforcement was expensive, (2) identification of the noise maker was difficult because of background noise, which if less than ten decibels lower than the noise being monitored cannot be distinguished, (3) the ordinance had to specify the distance at which noise was to be measured, (4) decibel limits had to be specified for different frequencies, and (5) enforcement was difficult when noise resulted from several sources.*

Not only do a relatively small proportion of local governments who report having adopted noise standards indicate they regularly monitor them, but the nature of the enforcing department differs sharply from the other types of standards. For example, air pollution standards are frequently enforced by a local air pollution control agency, environmental protection agency, or health department. Only occasionally is enforcement responsibility assigned to the police, planning/zoning, or building departments. In contrast, noise pollution enforcement is most frequently the responsibility of the police, building, and planning/zoning departments. It is also interesting to note that sewerage and water standards are most likely to be enforced by the department responsible for operation of the service or facility, rather than an independent group such as the health department or environmental protection agency.

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*Stuart F. Lewin, Alan H. Gordon, and Channing J. Hartelius, Law and the Municipal Ecology (Washington, D.C.: National Institute of Municipal Law Officers, 1970), pp. 75-76 as cited in Joseph F. Zimmerman, "The Municipal Stake in Environmental Protection," The Municipal Year Book 1972 (Washington, D.C.: The International City Management Association, 1972), p. 109.

ENVIRONMENTAL IMPACT STATEMENTS (EIS)

The National Environmental Policy Act (NEPA) was signed into law on January 1, 1970. One of its provisions required the preparation of a statement assessing the environmental impact of major Federal projects. A number of states and cities have adopted their own "little-NEPAs" and have adopted similar requirements for environmental impact statements. One of these states is California, which adopted its Environmental Quality Act in 1970. It requires that "all local governmental agencies shall make an environmental impact report on any project they intend to carry out which may have a significant effect on the environment." At first this was interpreted to mean only public projects; but the State Supreme Court in September 1972 ruled that it included any private projects which involved governmental action of other than a "ministerial" nature (i.e., if a city grants approval on a project for which it could have denied approval, then the project is subject to an environmental impact report). Subsequent guidelines spelled out in a thirty-five page document* exempted small projects and also created a Negative Declaration procedure (i.e., if the project will not have a significant impact, a full report is not necessary).

California's requirement results in a biased response to our survey of whether cities across the nation have adopted their own environmental impact statement (EIS) requirements. Table 49 indicates that 30% of all responding cities have some form of EIS requirement and 70% do not. Only 17% of the non-Western cities have an EIS requirement compared to 70% of Western cities. But when California cities are excluded, only 25% of the other Western cities have such a requirement. This is still larger than the other regions, but much closer to the proportion for the rest of the nation. For the entire nation excluding California cities, only 17% have an EIS requirement.

The same pattern occurs for counties; 66% of the Western counties--most of which are in California--indicate a requirement for EIS's on public and private projects, compared to 12% of the counties on the other three regions of the nation. Similarly, three-fourths of the Western counties (75%) have some form of EIS requirement, while three-fourths of the other counties do not (see Table 50).

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*Guidelines for Implementation of the California Environmental Quality Act of 1970 (Sacramento: State of California, Office of the Secretary for Resources, 1973).

Western cities with an EIS requirement for private projects--96% of which are California cities--are more likely to permit the private developer to write the EIS on private projects, than are the other regions (53% of the Western cities, compared to 30% of the cities in the other regions). Consultants to the municipality are involved in the EIS preparation process in approximately one-fourth of the cities (27% of all cities with EIS requirements, including 29% of the Western and 24% of the others, see Tables 51-52 for city and county data, respectively).

Review is most likely to be carried out by the administrative staff (49%) and/or the city's legislative body (46%). Another 23% said the review was done by the chief executive. Only 13% listed citizens or citizen groups as reviewers. Generally the review process involves more than one step, and almost one-third of the respondents listed others as involved in the review process, with the planning commission most likely to be specified (see Tables 53-54 for city and county data, respectively).

MORATORIA

When the California Supreme Court issued its ruling in the Friends of Mammoth vs Mono County case stipulating that private projects were covered in the state's requirement for environmental impact reports before public action could be taken, most cities in the state were unprepared. Their first response was to place a moratorium on the issuing of building permits and similar actions. These moratoria are reflected in the data that indicate 26% of the cities in the West responding to that question have imposed a moratorium. This tool has been used elsewhere, too, inasmuch as 17% of cities in other regions also have imposed some kind of moratorium for a total of 19% of all cities (see Table 55). In some cases it may be a temporary ban while a study or a facility (e.g., sewage plant) is completed. In some cases, however, the cause stems from a more fundamental concern--such as part of a limited-growth (or no-growth) policy--and the ban may be for a longer period of time.

Prohibiting building permits is the most common ban, imposed by 62% of the cities indicating a moratorium. Water and sewer connections have been stopped in 41% of these cities. Requests for rezoning have been prohibited in 36% of the cities (see Table 56). Obviously some cities imposed moratoria on more than one action.

The counties' data show similar findings. Twice as many Western counties have imposed bans as have other counties (33% compared to 17% for a total of 21%). Similarly, building permits are most likely to be banned (52%), sewer-water connections are next (45%) and rezoning requests are involved in one-third of the cities (33%, see Tables 57-58).

TAX INCENTIVES AND EFFLUENT CHARGES

One strategy that may be used to improve the environment is to stimulate business and industry through tax incentives and subsidies to take the action necessary to achieve the desired level of environmental quality. An alternate strategy to stimulate action involves effluent charges--basically a penalty structure that places a charge on the polluter for discharging pollutants into the environment. There are many variations of the "carrot strategy" of tax incentives or subsidies as there are of the "stick strategy" of penalty charges.

This survey of cities has disclosed that very few cities use the tax incentive-subsidy approach. Only 3% of the cities say they use it, and only an additional 1% claim it is under consideration (see Table 59). Counties report only slightly more frequent use or consideration--9% of the counties report its use and an additional 5% have it under consideration (see Table 60). Among the variations noted by the users are: agricultural preserves which reduce the taxes on agricultural land on the urban fringe for a period of years, providing the land is not developed but rather is left in agriculture or as open space; increased density permitted if a certain portion of the land is preserved as open-space (or for other specified programs such as soundproofing); exemptions from assessed valuations and property taxes for pollution-control devices; tax-free industrial revenue bonds to finance the acquisition and installation of anti-pollution equipment; and waiver of park-fees where natural features of the landscape are protected.

The reportedly low utilization rate may be due to a number of factors, including a misunderstanding of some of the tax-incentives and subsidies actually used by cities. Other factors might include a reluctance to give up any of its scarce revenues, as well as a reluctance to apparently reward a polluter. A lack of legal authority for local governments in the area of taxation may also account for its low utilization.

The use of effluent charges or some other system of charges or some other system of taxes or fines that are related to the quality and quantity of discharges into the environment is more frequent. Almost a quarter of the cities (24%) say they use such a system, and another 5% report they have it under consideration (see Table 61). The data for counties are similar--22% report its use and 3% report it under consideration (see Table 62). But again these results may not accurately reflect the real utilization of this technique, as some cities apparently include any anti-pollution ordinance that involves a fine. Some of the variations being used by the cities and counties include: sewer charges based on BOD (biochemical oxygen demand), SS (suspended solids), and/or overstrength wastes, and a separate fee for industrial waste discharge. The data indicate that larger units for government are more likely than smaller ones to use it. City data indicate the West is least likely to use it, but county data show the most frequent use in the West.

INITIATING LAW SUITS

The courts are playing an increasing role in policy making in the United States, and the area of environmental protection is not an exception. Suits have been filed by citizens, by corporations, and by governments. They have been filed by those acting in the name of environmental protection and by those acting in the name of economic freedom or other values.

Cities have been the initiator of suits on a number of occasions; 10% of the cities answering the question indicate that they have filed a major legal suit on an environmental matter in the last two years. There is a tendency for Northeastern and North Central cities to use this technique more than those in the West or South. The latter is least likely to have filed suit (see Table 63).

The data for the counties indicate a similar utilization rate, but some differences in use patterns. Some 14% of the counties have initiated suits. But unlike cities, there is a clearer difference between the largest size category of counties and the smallest with the former more than four times as likely to file a suit. In our sample of counties, Southern counties are most likely to have filed suits and those in the the Northeast are least likely (see Table 64).

The suits show a wide range of subject matter. Some suits are designed to take action against polluters, while others seek to prevent pollution by halting a project. In several instances there have been attempts to force other governmental agencies to apply existing law (e.g., prevent approval of a project before an EIS could be produced, or before a master plan could be completed). In at least one case, the suit represented an attempt to gain the authority necessary to safeguard the environment in the future. The subject of the suit was the right of the city to adopt and enforce landfill regulations, disputing the claim that the state had pre-empted the field.

LOCAL INTERGOVERNMENTAL SERVICE AGREEMENTS

The strategies examined in this section thus far have involved a program of action undertaken by a city or a county within its own jurisdiction. However, many cities and counties are cooperating with others in a variety of intergovernmental programs to safeguard and enhance the environment. Since a survey of the cities had been taken less than a year earlier, this survey purposely omits reference to this strategy of managing the environment.

That study, conducted in May 1972 by the International City Management Association and the Advisory Commission on Intergovernmental Relations, indicates that the utilization rate of service agreements with other local governments ranges from 2% to 12% of the cities, depending on the type of environmental function involved.* Cities are most likely to use service agreements with other units of local government for sewage disposal (12%), water supply (9%), solid waste disposal (7%), and planning (7%).

The data, as recalculated from that study and presented in Table 65, show larger cities (over 25,000 population) are more likely to use agreements than smaller cities (2,500 to 25,000) for nine of the twelve environmental services. Smaller cities are more likely to use them only for water distribution services (5% compared to 3%) and zoning and subdivision control (3% compared to 2%). Differences generally were quite small, one exception being sewage disposal, which shows larger cities more than twice as likely to use agreements as smaller cities.

One other pattern emerges from these data. Of those using agreements, the smaller cities are more likely than the larger cities to turn to other cities and counties (on nine of the twelve environmental functions) while the larger cities utilize special districts and COG's or other regional units more often than small cities (on seven of the twelve environmental functions, each type of government).

The study also indicates that the factors most frequently cited as inhibiting agreements are limitations on independence of actions (48% of the responding cities which listed any reason), inequitable apportionment of cost (22%), and adverse public reaction (9%). The reason most frequently cited for the use of agreements is the desire to take advantage of economies of scale.

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*The data presented in this section is recalculated from: Joseph F. Zimmerman, Urban Data Service, Intergovernmental Service Agreements for Smaller Municipalities (Washington, D.C.: International City Management Association, 1973), and Joseph F. Zimmerman, "Meeting Service Needs Through Intergovernmental Agreements," in The Municipal Yearbook 1973 (Washington, D.C.: International City Management Association, 1973), pp. 79-88

IMPORTANT OR INNOVATIVE PROGRAMS: OPEN-ENDED RESPONSES

In addition to the closed-ended questions reviewed above, the questionnaire also asks the local governments to indicate "the most important or innovative actions or programs...undertaken in the last two years to improve or safeguard the environment." Limited resources prevent an analysis of all of these open-ended responses. But a randomized selection of seventy-five actions indicates that a wide range of activity is deemed to be "important or innovative" by local governments. While some may regard their selections as minor or mundane, the list does serve to indicate the interests and activities of local governments.

Several of the respondents report intergovernmental or regional activities--e.g., a contract for regional wastewater treatment, intergovernmental contracts for solid waste management, joint construction and operation of an incinerator, and the creation of a regional anti-pollution authority.

Several cities consider some of the actions discussed earlier in this report as among their most important or innovative actions--e.g., several list their environmental impact statement requirements, and several others list the creation of citizen advisory committees.

Actions to solve the solid waste problem are noted by many of the local governments, for example, compaction of solid waste, stopping open burning, removal of junk cars, recycling programs, a new incinerator, use of a sanitary landfill to replace an open dump, and free collection of household trash and garbage.

Another area of concern is that of sewage. Improved sewage treatment facilities is the action cited by the largest number of local governments in this randomized sample. Related actions include references to sewage studies, including research into groundwater recharge of treated sewage effluent, secondary treatment of sewage effluent, and the extension of sewers. Several cite improvements in the stormwater system, e.g., ponding and percolation of some stormwater.

A number of local governments list actions concerning land use controls. For example, the development or revision of the land use plan, subdivision requirements, design standards ordinance, the adoption of an architectural theme, and the adoption of a filling and dredging ordinance. Several list their purchase of land for open-space or parks, while one cites limitation on the use of a beach area. Others list aesthetic improvements such as programs for preventive maintenance, tree planting, and tree pruning.

Several local governments specify the development of noise ordinances including the setting of standards for contracts for services and equipment. Air pollution programs include establishment of air monitoring programs, reduction of emissions from a power generating plant, and the use of propane in police vehicles. Educational programs such as an environmental arboretum and the annual observance of Earth Day are also listed.

SUMMARY

A large number of techniques or strategies are available to local governments involved in environmental management. Strategies derived from areas of traditional authority or operation are more likely to be used than others. For example, land use controls have been considered a traditional exercise of police powers and have been adopted (even if not always rigorously enforced) by American local governments for many decades. Land use controls are the tools most likely to be used by local governments, with some individual techniques being used by almost half (or more) of the units.

Similarly, adoption of environmental quality standards is much more likely for systems operated by the local government. Cities are more likely to have adopted standards for sewerage (53%) and water (43%) than for air (18%) or noise (18%). Similarly sewerage and water standards are more likely to be enforced by the city, usually by the operating department.

Effluent charges or a penalty structure in which business and industry pay for discharging pollutants into the environment is more frequently used, according to the respondents, than a strategy of tax incentives or subsidies. The former is reported used by approximately one-fourth of the cities, while only 3% report the use of tax incentives or subsidies.

The strategy of local governments requiring environmental impact statements is a new phenomenon stemming from the federal precedent established in NEPA passed in 1969. Approximately 30% of the cities report a local EIS requirement, but when we exclude California cities as atypical (since they are required by state law to use an EIS process for local decisions on public and private projects), only 17% of the other cities use this strategy.

Moratoria have been imposed by 19% of all cities responding to the survey, many of which are California cities which imposed moratoria after a state Supreme Court decision on the applicability of the EIS requirement caught virtually all of the cities by surprise. Excluding the Western cities, only 17% of the cities surveyed have used moratoria.

The practice of initiating law suits is still a relatively rare practice--having been reported by only 10% of the cities.

The use of intergovernmental service agreements for environmental management is also relatively uncommon, as only 2% to 12% of the cities report an agreement, depending on the environmental function involved.

F. Evaluation of Environmental Management Strategies

Introduction

The previous sections of this report have examined local governmental utilization of a variety of environmental management strategies and some alternate organizational forms. The data from the survey of cities over 10,000 and counties over 50,000 indicate varied utilization of the different alternatives. For example, almost every city indicated some land use control, but only a handful reported a program involving tax incentives. The data also indicate that utilization rates for different classifications of cities vary considerably, as well. This knowledge can be helpful to those interested in developing plans for environmental management programs.

Other information useful to local officials includes what local governments and others think of the alternate strategies and organization forms. If most local government officials believe a particular strategy is effective, perhaps officials who view that tool negatively might want to re-include it on a list of potential techniques. But even more important are the evaluations of those who have used the techniques. If the perception of users and non-users were similar then the analysis need not differentiate between the two groups. A closer look at the respondents' evaluations of the effectiveness of the tools indicates a significant difference between the perceptions of users and non-users. One example of very different perceptions is use of moratoria where 32% of non-users term it effective, 29% ineffective, and the remainder neutral. (Note that an "index" score constructed by ignoring the neutrals and subtracting the other two proportions from each other was only three.) On the other hand, users considered moratoria decidedly effective; 62% rate it as an effective tool, while 15% view it as ineffective (for an index score of 47). A comparison of ranks of effectiveness assigned to each alternative based on their index scores places moratoria last when all respondents are used as the basis; but a ranking based on the index score for each alternative's users places four other strategies below it. In another example, 14% of all of the responding cities consider tax incentives an ineffective technique, and only about half (54%) view it as effective (for an index score of 40); but no user of tax incentives considers it ineffective, and almost three-fourths rate it effective rather than neutral, for an index of 72.

In all but three cases analyses of evaluations of a strategy by local governments are based on the responses of users of that alternative. The three exceptions are: intergovernmental and regional arrangements, land use controls, and environmental quality standards. Evaluations of intergovernmental and regional arrangements use the data from all respondents because our survey does not ask about its utilization but rather relies on data from an earlier study of service agreements. Land use controls are used in some form by almost every local government, and so data from all local governments are used. The situation concerning environmental quality standards is quite complicated because some states permit local governments to adopt and enforce standards, other states set standards but delegate enforcement to the local governments, still other states have pre-empted the field entirely, and some cities report setting standards but turning to state agencies for enforcement.

The strategies are discussed in the following sequence: first, the three organizational alternatives to manage the environment in the order of preference by city "users" -- a single environmental agency, use of citizen advisory boards, and intergovernmental and regional arrangements; then seven alternative action strategies in the order of preference by city "users" -- land use controls, environmental quality standards, tax incentives, penalty charges, moratoria, environmental impact statements, and law suits.

ENVIRONMENTAL AGENCY

The concept of a single environmental agency is viewed as an effective way of organizing to promote and secure environmental quality. Its evaluated effectiveness index score is 70, with only 6% of the city users who offer an evaluation labeling it as ineffective compared to 76% calling it effective (see Table 67). The index score for non-users of 47 is considerably lower or less favorable.

Large city users view their organizational form as more effective than do those from smaller cities (composite index score for cities over 100,000 is 83 compared to 68 for cities below that size). Mayor-council cities view it more favorably (78) than manager-council cities (70). Counties with an index of 74 -- 79% effective, 5% ineffective -- consider it more effective than cities (see Table 68). Federal respondents view it as very effective (index of 88), but state respondents are more negative (index of 38).

A single environmental agency is one answer to the fragmentation of responsibilities often found within the city's governmental structure. It can serve as the developer or coordinator of a complete plan to protect the environment, thus focusing responsibility while avoiding conflicting (or duplicating) programs. Several governmental jurisdictions have considered it or adopted it in order to change their influence structure -- e.g., broadening the focus of their environmental program by reducing the influence of a more traditional department such as health or public works. An attempt to change traditional lines of communication and influence can be expected to cause opposition and conflict, thereby reducing effectiveness. A single environmental agency is likely to play the role of an advocate. Although this may be useful and desirable, it may not be if other departments assume that the environment is not their concern and act accordingly. The administrative style of some chief executives favors cooperation and consensus rather than the advocacy or adversary process. Further, the advocate role is likely to bring the department into conflict with other city departments which may be major polluters. The result is that a new single environmental agency needs the strong support of the chief-executive. Yet a single environmental agency, with its greater public visibility, may also be useful as a demonstration of a city's commitment to environmental protection as well as a rallying point for environmental interest groups. For these reasons it may be considered effective by many users.

CITIZEN ADVISORY BOARD

Perhaps the most interesting finding about the evaluation of citizen advisory boards is that those communities which create new boards generally rate citizen advisory boards more effective than those who expand existing bodies. Although the evaluation question addresses the effectiveness of citizen boards in general, questions pertaining to utilization addresses the alternatives of creating a new group or expanding an existing one. These are not exclusive categories. A number of cities have done both, since the environmental problem is frequently fragmented with single-purpose organizations. Examination of the data for all those who have created a new advisory group shows an evaluated effectiveness index of 49, based on 61% rating citizen advisory groups as effective and 12% viewing them as ineffective (see Table 68). This represents a sharp contrast to those who have expanded an existing group. Their index score for citizen advisory groups is only 27, with 47% rating them effective and 20% considering them ineffective (see Table 69).

Between non-users, who always rate a strategy lower than users, and those using the perceived less effective means of expanding existing boards, the index score of all cities is quite low. The index score of 22 is second lowest of all of the strategies evaluated. But this low score is comparable to the results of the North Carolina study which found that only 17% rated the general tool of "citizen participation" as very effective in achieving environmental quality, while 45% rated it moderately effective, 38% considered it only slightly effective, and 2% labeled it not effective.

The patterns of perceived effectiveness are similar for the two groups of users, with users of expanded boards less enthusiastic in all but one category of cities. Western cities have the lowest index scores; independent cities rate the boards as more effective than do metropolitan cities. Cities with city managers are more critical of the effectiveness of citizens advisory boards than those using a mayor-council form of government (they are also less likely to use them). Larger cities which have created new citizen boards tend to see them as more effective than do smaller cities, but there is no consistent relationship between these variables when the data for cities using expanded boards were examined.

The data for the counties show a much smaller difference between the two groups of users with the index scores being 45 and 41 for those creating new boards and those expanding existing ones, respectively (see Tables 70-71). State and federal respondents' index scores are consistent with the cities and counties, totalling 47 and 34 respectively.

With respect to the effectiveness of citizens advisory groups, it is clear that the effectiveness of these groups depends on the functions assigned to them, the personnel appointed to them, and the amount and quality of staff support given to them.

INTERGOVERNMENTAL AND REGIONAL ARRANGEMENTS

The evaluated effectiveness index score based on the responses of all cities evaluating the strategy of intergovernmental and regional arrangements is only 46 (with 59% of the cities rating this strategy as effective and 14% considering it ineffective). There is relatively little variation among the cities (see Table 72).

Although many observers feel that intergovernmental and regional arrangements are valuable in the area of environmental protection, to handle such matters on a broader geographical basis, there are sufficient problems in the cities' view to minimize its effectiveness. Perhaps the fear of limitation upon independence of action (either a desire to do more than the regional standards or program, or a desire to do less) and the problems of apportioning costs (noted by cities as factors inhibiting the use of service agreements -- one form of intergovernmental arrangements) detract from such advantages as efficiency and uniformity.

Counties reported similar overall findings, with an index score of 52, based on 64% of the counties rating this strategy as effective and 12% viewing it as ineffective. There are larger variations between categories of counties -- e.g., the index for Southern counties is lowest with 31, compared to the highest index score of 79 for North

Central counties. Metropolitan counties are less enthusiastic about this strategy (index score of 46) than non-metropolitan counties. This may reflect a greater homogeneity within the non-metropolitan counties encouraging the use of intergovernmental arrangements, while the conflicts between central cities and suburban cities within metropolitan areas create problems and doubts about the effectiveness of such cooperative measures (see Table 73). Both state and federal respondents see it as more effective than do the local governments, with index scores of 59 and 61, respectively.

LAND USE CONTROLS

Land use controls are perceived by the cities as the most effective of the seven action strategies suggested to them for promoting and securing environmental quality. Ninety percent of the cities rated it very effective or effective, while only 3% rated it as ineffective or very ineffective. This results in an evaluated effectiveness index of 87. All classifications of cities rated it highly, although there were some differences. The very largest cities (over 500,000) were a little less enthusiastic about this strategy (index of 72), but in general there is no relationship to size. Similarly, Southern cities (index of 83) and central cities (84) were less enthusiastic than other cities. Council-manager cities viewed land use controls as more effective than do mayor-council cities with scores of 89 and 80 respectively (see Table 74).

The counties' index score 81 also is very high based on 86% rating it effective while only 5% consider in ineffective. County data also show that Southern, metropolitan and non-administrator counties are less enthusiastic than other types of counties (see Table 75).

State and federal respondents also view land use controls as effective programs, with index scores of 78 and 75 respectively.

Although the survey did not ask respondents the reasons for their evaluation, it appears that Southerners are more concerned about limitations upon "free enterprise" and are more likely to be critical of any "controls." The largest units of government may see land-use controls as of less value to them because of the relative unavailability of land for development and because of the greater complexity of their environmental problems. The generally high evaluation of land use controls may reflect the importance they attach to land use problems, their extensive utilization of land use controls, and the availability of expertise in these matters, rather than an evaluation of the effectiveness of the controls themselves.

It should also be noted that the effectiveness of land use controls depends upon their enforcement. Many critics of land use plans, for example, have observed that amendments, special use permits, and variances are frequently granted in response to pressures on particular cases without any real reconsideration of the entire plan. One state respondent in commenting about the utility of local government land use controls in promoting and securing environmental quality noted its criticalness by saying, "This is where the ballgame is lost."

ENVIRONMENTAL QUALITY STANDARDS

The use of environmental quality standards is an accepted method of securing a better environment. Its evaluated effectiveness index score is 73, ranking it only behind land use controls. More than three-fourths of the cities (77%) rated it effective, and only 4% labeled their use ineffective (see Table 76).

Central cities are more likely to have adopted environmental quality standards and are also more likely to have rated them as an effective strategy (index score of 76 compared to 72 for suburbs and 71 for independent cities). The West (score of 76) and manager-council cities (75) rated them as more effective than did comparable cities. There is no consistent relationship to city size, despite a tendency for larger cities to be more likely than smaller cities to have adopted standards in at least one of the four environmental areas examined.

Counties view the effectiveness of standards even more favorably, with an index score of 82; 85% rate it as effective and only 3% call them ineffective. This index score is one point higher than that given to land use controls. Western counties, like Western cities, rated them as more effective than do other regions; 88 compared to scores of 72 to 86 for the other three regions (see Table 77).

The federal respondents viewed standards as very effective (index score of 94) which may reflect their own activity. States view local standards less favorably (index score of 59), perhaps reflecting a reluctance to see local governments enter into the field already filled with state and federal activity.

The effectiveness of environmental quality standards in acheiving environmental quality depends, in part, upon their enforcement. As was noted earlier in the section on the utilization of standards, a considerable number of local governments have adopted a set of environmental standards but have not enforced them. Although even unenforced standards may be useful as a goal, their effectiveness rests upon enforcement. A considerable proportion of cities raised the problem of unrealistic standards -- especially considering limited resources to remedy any deficiencies -- as one of their complaints against the states and federal government.

TAX INCENTIVES

None of the cities which have used and evaluated tax incentives consider them to be ineffective; almost three-fourths of them (72%) said they are effective, resulting in an index of 72 (see Table 78). This contrasts with the views of non-users, whose index is only 40 (54% rating it effective, and 14% ineffective).

Counties view the use of tax incentives less enthusiastically--an index score of 54; with only 8% of the users seeing it as ineffective compared to 62% rating it effective. But this is still relatively high compared to the index scores given other strategies; and it is still higher than that given by non-using counties, index score of 45 (see Table 79). Its limited use precludes any further analysis of sub-sets of users.

Federal and state respondents evaluate tax incentives similarly to city users with index scores of 72 and 74 respectively.

The reluctance of non-users to see it as an effective strategy, as noted earlier, may be due to it being interpreted as a reward for pollution, by both city officials as well as the public. A shortage of revenue and of authority to adopt such a strategy may also be factors. But subsidies as an incentive to action is not a new principle; and they can be effective if they are used to stimulate action that otherwise would not be taken, especially since economic justification is offered as a rationale for continued pollution.

PENALTY CHARGES

The survey question asked for an evaluation of penalty charges as a strategy to promote and secure environmental quality; this was done in an effort to get local evaluation of the concept of effluent charges, or as the question stated "penalty (fine or tax) structure in which business and industry pay for discharging pollutants directly into the environment." It is not clear that the cities responding all have the same reference, as some may be thinking of service charges as effluent charges. "Penalty charges" receives an evaluated effectiveness index score of 59 from those indicating use in the earlier question; two-thirds (67%) rate the strategy as effective, while only 8% consider it ineffective (see Table 80). Non-users give it a lower index score of 45; 60% effective and 15% ineffective.

There is no consistent relationship between size of the city and the evaluation of this strategy by its users. The North

Central cities view it most favorably (69) while those in the West are least favorably disposed (47). Independent cities rate it more favorably (65) than cities in metropolitan areas (57). Cities with city managers view it as more effective (62) than those with the mayor-council form of government (52).

The data for counties are unusual in this instance, as non-users give it a higher index score than users (41 and 32 respectively). Fewer users view it as effective (44%) compared to 56% of the non-users (see Table 81).

State respondents give it an evaluated effectiveness index score of 59, while it is 46 for federal respondents.

The use of effluent charges has been praised as a device that treats pollution as a cost thereby introducing its abatement into the decision making process of the businessman who is trying to maintain an edge over his competitors. It also may serve as a source of revenue for a governmental environmental protection program. But others have labeled it as a "license to pollute," and this image detracts from its utility. Some critics have also argued that the costs of the penalty charges will merely be passed on to the consumer and the effect upon the business may be minimized depending on the nature of its competition. The strategy of penalty charges has also been critized by those who hope to evolve change through cooperation.

MORATORIA

As noted in the introduction to this section, those who have imposed a moratorium rate it as a much more effective strategy than those who have not used it. The evaluated effectiveness index score is 47 for users, but only 3 for non-users. The proportion rating it as an effective strategy is approximately twice as high for users compared to non-users, and non-users are about twice as likely to rate it as an ineffective tool compared to the users. Among users, 62% rated it effective and 15% ineffective, compared to 32% and 29% respectively for non-users (see Table 82).

The county data reflect a similar gap between users (index score of 48, with only 4% rating it ineffective) and non-users (index score of 3, with one-third considering it ineffective; see Table 83.)

Federal and state respondents reflect non-users to a degree with index scores of 16 and 39 respectively.

There were some differences among users, however. The West and North Central users are least likely to rate it as an effective tool (39 and 40 respectively), while the South and Northeast view it more favorably (56 and 55 respectively). Central cities consider them more effective (57) than do the suburbs (47) or independent cities (33); mayor-council cities rated it as more effective (55) than do council-manager cities (44).

Although moratoria may be considered an admission that previous planning or other programs have been ineffective, their use may prove valuable if the delay is used to analyze alternatives and to develop effective programs, rather than merely postponing the resolution of the problem. Their use frequently occurred as the result of a crisis, and the use in those circumstances is probably least open to criticism. Its use as a permanent or long-range solution may create strong criticism of the local government by those adversely affected.

ENVIRONMENTAL IMPACT STATEMENTS

A city's experience with environmental impact statements (EIS) may stem from Federal or state law or from their own requirement. The focus of the report is on local governments' actions in the area of environmental management. The evaluated effectiveness index of this group of users is 44, with 59% viewing the EIS process as an effective strategy, while 15% consider it ineffective (see Table 84). Those familiar only with the federal EIS requirement or who have not been involved at all with the EIS have an index score of 25.

The West stands out as the region which views the EIS process as most effective--its index score is 58, with only 10% of the users considering it ineffective. Non-Western cities give it an index score of only 19. County data are similar. The index score for all users is 31 (51% considering the statements effective and 20% ineffective), but Western users give them an index score of 48 (see Table 85).

The North Carolina study indicates that 18% of all of their respondents rate them very effective, 45% as moderately, 30% slightly, and 7% not effective.

Federal officials view impact statements favorably (index score of 55), but states view them less favorably with an index score of 17, based on only 39% calling the EIS process effective.

The relatively low effectiveness rating for the EIS process (only one other strategy ranks lower for city users) may stem from a number of factors--especially considering the higher rating given by Western users who are primarily California units of government. Some of the criticisms of the federal process may have influenced the cities' evaluations, while some of these criticisms may also be applicable to the EIS process required by local governments. These criticisms include problems of cost and delay, compounded by a lack of technical expertise to accurately and objectively determine the environmental impact of proposed projects. In many instances the EIS process has emphasized procedural requirements more than substantive content.* For instance a review of federal EISs through January 1972 noted that although two-thirds of the projects had statements indicating adverse environmental impacts for the project, most projects were not changed as a result of the analyses.+ The General Accounting Office's review of the federal process noted that inadequate technical analyses, inadequate review of the statements, and inadequate consideration of alternatives marred the utility of the EIS procedure.‡

Yet the EIS process has also been viewed as contributing to the decision making process by including environmental impact considerations as an explicit input into the decision making process. And when the process is working as intended, these inputs occur at the planning stage, i.e., early enough to make a difference. Similarly, the impact of the EIS process is likely to be felt in other areas of decision making as well, as a result of opening up the entire process to public participation, and to the special consideration of impacts of an action upon the social environment. The need to develop or review EISs has forced a number of agencies to expand their own expertise in the environment field. It has also encouraged greater coordination among agencies both within a government and between levels of government. And, of course, the EIS process has fulfilled its manifest function of killing some potentially environmentally-damaging projects.

*See Lyle J. Sumek, "Environmental Impact Statements: More Myth than Reality," in An Anthology of Selected Readings for the National Conference on Managing the Environment (Washington,D.C., 1973), for a summary of strengths and weaknesses of the federal EIS process.

+This study is cited in Frank Kreith, "Levels of Impact," Environment XV (January/February 1973), p. 30.

‡General Accounting Office, Adequacy of Selected Environmental Impact Statements Prepared Under NEPA of 1969 (Report to the Subcommittee on Fisheries and Wildlife Conservation, House Committee on Merchant Marine and Fisheries, 1972), p. 64.

One of the improvements that the state of California has made to the process is the requirement that mitigating measures be discussed whenever adverse environmental impacts are noted. Future developments are likely to increase the significance of the EIS process. As one observer noted, the first generation of suits were concerned with whether an EIS was required; the second generation considered whether the EIS was adequate or merely a pro-forma exercise; the third generation will address the problem of whether the government has ignored the EIS.*

Another development that may be on the horizon is the application of the EIS process to the comprehensive plan itself.+

As the EIS process becomes an institutionalized part of the decision making process, its weaknesses and inconsistent applications will be modified; and as time goes on more cities will view the EIS process as an effective means to promoting and securing environmental quality.

LAW SUITS

The use of law suits is evaluated as the least effective of the alternate environmental management strategies by the cities, with an index score of 40 (the counties ranked it higher, with an index score of 50). Yet it is worth noting that this alternative is considered ineffective by only 19%, while more than three times as many cities (or 59%) rate it as an effective strategy (see Tables 86 and 87). Federal respondents view it more favorably (index of 55) than do states (index of only 23).

Among the users of this strategy, large cities rate it as more effective than small cities. In fact, all eight of the cities over 100,000 that indicate they have initiated a major legal suit regarding environmental matters in the last two years rate it as very effective or effective. Central cities, without regard to their size, are also very enthusiastic with an index score of 92. Southern users rate the strategy as more effective than those from other regions (an index score of 67 for Southern users compared to a composite index score of 37 for the other regions). Mayor-council cities view the use of law suits more favorably than council-manager cities (index scores of 66 and 34 respectively).

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*Comments of Nicholas C. Yost, Deputy Attorney General of California, at the National Conference on Regional Environmental Management, San Diego, February 1973.

+Comments of Robert C. Einsweiler at the National Conference on Managing the Environment, Washington, D.C., May 1973, summarized in the Final Conference Report for the Conference.

SUMMARY

Analysis of the evaluations of alternate strategies for environmental management indicates that although the relative effectiveness of the alternatives varies, each strategy is more likely to be considered effective than ineffective. Another finding is that although non-users are more likely to be positive than negative, an evaluated effectiveness index based upon the difference between these ratings given by users and non-users indicates that users generally rate strategies as more effective than do non-users. A number of strategies that would appear to be evaluated as relatively ineffective if the evaluations of all of the cities were used, actually are evaluated as quite effective by users of the technique.

The evaluated effectiveness index scores for cities are summarized in Table 88. Since a city may use one strategy but not another, one cannot claim that the highest index score for any category of cities indicates its most effective strategy. But the table does indicate the evaluated effectiveness score for each strategy for each category of city users.

G. Factors Contributing to Development of Environmental Management Programs

The discussion of the utilization of alternative organizational and action strategies for environmental management indicates a wide range of use among the local governments. One factor influencing the adoption of a strategy is the evaluation of it by users. The success (or failure) of a program has a strong impact upon its adoption elsewhere. But what general factors do local governments see contributing to the development of environmental management programs in their communities? This question, along with the views of our state and federal respondents, is considered in this section.

When local government officials are asked, "What are the major factors contributing to your municipality developing environmental management programs?", they see their own role as "concerned municipal officials" as crucial. Three-fourths (75%) of the cities cite this factor--more than any other factor. Similarly two-thirds (67%) of the counties claim it, placing it as their second most frequently indicated factor (See Tables 89 and 90). This may actually reflect the role of the decision maker in this complex policy area, but it may also represent a form of "self-congratulation." It is not insignificant that state and federal officials are much less likely to mention the role of local officials. Only 42% of the state officials indicate it as a major factor placing it as their sixth (of eight) most frequent response; and federal officials place it fourth, with 61% citing it as a major factor.

Officials at all three levels of government recognize and acknowledge the stimulus of state and federal requirements to the development of environmental management programs at the local level. Two-thirds (68%) of the cities cite it (their second most frequent response). Counties (77%), state officials (84%), and federal officials (89%) are more likely to cite this factor than any other. State and federal officials are also likely to see a strong role for "state or federal financial incentives or assistance;" 84% of the state and 78% of the federal respondents cite this factor. But local officials place it only fifth among the eight factors, with 38% of the cities and 51% of the counties listing it. This gap perceived by local governments between these two roles of the state and federal governments--i.e., promulgating requirements, and assisting local governments to meet those requirements--can easily lead to discontent and criticism of the state and federal governments. And in fact such complaints are cited by the local governments in response to several questions, as discussed later in this report.

The perception of the contribution of state and federal financial assistance is not shared equally by all of the local governments. Larger cities and counties are more likely to mention it than smaller ones. Southern cities, but not counties, are also more likely to mention it than local governments in other regions.

The role of active environmental groups and public support in general are also cited by large proportions of the respondents. Half of the cities cite general public support (placing it third) and 44% acknowledge the role of active environmental groups (placing it fourth) in contributing to development of environmental programs. County, state and federal officials reverse the order, with more respondents likely to list active groups than general public support.

A number of respondents also recognize the role of the environmental situation itself as a factor contributing to the development of environmental management programs. Environmental deterioration is listed by 30% of the cities and 41% of the counties as an important contributor. Federal officials were most likely to mention it (56%),making it their fifth most frequent response; and 37% of state officials note it too. Larger cities are more likely to cite this factor than smaller cities; central cities are more likely than suburban or independent cities. But, there is little regional variation.

Apparently permissive or enabling legislation is not considered a major factor in the development of environmental management programs. The existence of enabling legislation permitting governmental action is listed by only 28% of the cities and 46% of the counties; 47% of state and 44% of federal officials also cite it. Larger cities and counties, which may have more home-rule, are more likely than smaller local governments to cite it as a factor.

The factor least likely to be mentioned by all groups of respondents is that of available expertise. Only 19% of the cities and 27% of the counties cite it as a factor. Federal officials are also unlikely to cite it (22%) , and state officials are least likely of all (11%). Whether these data indicate a lack of available expertise in local government, or a belief that expertise is not essential to developing environmental management programs, is not clear. There is some evidence for the latter, since local governments indicate a variety of expertise available within their staffs, and from other sources. But a lack of expertise is seen as one of the "major obstacles to environmental management" (See the discussion of these data in a later part of this report).

In summary, local government officials see an important role for concerned local decision makers and for the stimulus provided by state and federal requirements in the development of environmental management programs at the local level. State and federal officials share the view concerning state and federal requirements and also add state and federal financial incentives or assistance as a major factor, but do not consider the role of local officials as crucial. This disagreement between local officials and state and federal officials is one of the sharpest and most significant evidenced by this survey.

H. Intergovernmental Relations

Introduction

Environmental quality is not the task of any single level of government. A successful program requires the participation of all three levels of government--local, state and federal. Each level must be concerned with the activities of the others; and each must be aware of the perceptions, values, and problems of the others. The survey explored several of these areas. First, since the Environmental Protection Agency is the primary federal environmental contact, the study sought to learn the frequency of local government contact with the regional and central offices of EPA. In addition this survey asks local government officials to indicate their degree of satisfaction with these contacts. Second, since the federal requirement for environmental impact statements (EIS) is of direct concern to both the federal and local governments, a number of questions were asked about the latter's experience with the EIS process. Third, the role of federal and state governments and their interaction with local governments was addressed in a number of direct questions (such as whether local governments were having difficulty meeting federal standards) and indirect ones (e.g., questions on sources of expertise, and sources of stimuli and obstacles for environmental management programs include the federal government as one of the possible responses). Fourth, local governments were asked to indicate the problems they have encountered with federal and state governments concerning environmental management. This section of the report will discuss these four aspects of intergovernmental relations.

FREQUENCY AND EVALUATION OF CONTACTS WITH EPA

Frequency

Almost half of the cities (47%) report frequent or very frequent contact with EPA, but communication between EPA and the cities is not constant for all classifications of cities. Larger cities are more likely to be in contact with EPA and also to have more frequent contact than smaller cities. Only 7% of the cities over 100,000 report no contact with EPA compared to 17% of the smaller cities; and 27% of the larger cities report very frequent contact compared to 15% of the other cities. Suburban cities report the least contact, with 25% reporting no contact at all, and only 10% responding their contact is very frequent. The West also has less contact than other regions, with the South indicating the most contact. Cities with a mayor-council form of government report more contact with EPA than council-manager cities (see Table 91).

Evaluation

Only 9% of the cities complain about their contacts with either the central office or regional office of the Environmental Protection Agency. Contact with the regional offices is slightly more satisfying than with the central office, according to local respondents; 56% of the cities rate their contacts with the regional office as satisfactory or very satisfactory, while 45% of the cities express satisfaction with their central office contracts. The mean satisfaction rating for regional contact is 2.4 and for central office contact it is 2.6, with the possible range being 1.0 for very satisfactory and 5.0 for very unsatisfactory (see Tables 92 and 93).

The largest cities (over 250,000) are most satisfied with their contacts with both the regional and central offices (mean scores of 2.0 and 2.3 respectively), while the smallest cities (under 50,000) are least satisfied (means of 2.5 and 2.6 for their regional and central office contacts, respectively). Other pockets of relative dissatisfaction are Western cities (means of 2.5 and 2.7 for regional and central contacts) and suburban cities (2.5 and 2.7 for regional and central contacts).

Apparently the degree of satisfaction may be related to the amount of contact. Smaller, Western, and suburban cities all report less contact with EPA offices. And, satisfaction appears to be unrelated to difficulties complying with federal air and water standards. Those with the most dissatisfaction are generally least likely to acknowledge such difficulties (see Table 112).

County data is not consistent with these findings. Although the smallest counties indicate the least satisfaction with their contacts, the group of next smallest counties are the most satisfied. Western counties are the most satisfied in the nation. And metropolitan counties indicate higher levels of satisfaction than do non-metropolitan counties (see Tables 94 and 95).

Of the nineteen states replying to our survey, only one report of unsatisfactory interaction with EPA is noted. Mean level of satisfaction with central EPA is 2.5, with regional EPA it is 1.9.

The regions used by our study do not conform to EPA's regional offices and, therefore, an analysis of frequency and evaluation of contacts with each regional office is not possible at this time.

FEDERAL EIS EXPERIENCE

Approximately one-third of the cities (32%) indicate they have written a federal EIS as part of an application for federal funds (see Table 96). About one-fifth of the cities (22%) report they have reviewed such statements as part of the process established by the National Environmental Policy Act of 1969 (see Table 97). These cities report writing an average of six statements and reviewing an average of three statements. The number of statements reviewed appears to be very low considering that 2933 agency actions had been the subject of an EIS through May 1972, and that several cities might be eligible to review any single EIS. This may indicate some weakness in the A-95 review process machinery.

Cities of more than 100,000 are more likely to write (66%) and review (45%) EISs than are smaller cities (29% and 20% for writing and reviewing respectively). The average number they write and review also is generally higher. Cities in the Northeast are least likely to have written an EIS, while the South is most likely. But, the review of EISs is evenly distributed. Central cities are most likely to have written (55%) and reviewed (35%) statements; and those who have done so average more statements than have suburban and independent cities.

According to the 1972 Report of the President's Council on Environmental Quality (CEQ), almost half of all agency actions resulting in an EIS have dealt with roads. Flood control represented 14% and airports 8%.* Cities indicate that 38% of the statements they have written concern roads, 15% flood control, and 29% airports (see Table 98). Of the statements they have reviewed, 54% are for road projects, 34% flood control, and 23% airport (see Table 99). In other words, a disproportionately high number of statements have involved airports. The cities also report greater involvement with urban renewal projects than is indicated in the CEQ data.

The cities report that outside consultants are frequently responsible for writing the cities' impact statements (41% of the cities indicated using them). The chief executive is listed as the author by approximately one-third of the cities (34%). There are no consistent size relationships, but Southern cities are most likely to use consultants (57%); city managers are more likely to be credited with writing them (37%) than are mayors (26%, see Table 100).

*Council on Environmental Quality, Environmental Quality, 1972, p. 249.

Regarding authorship of locally required EISs, only 14% of local chief executives were involved significantly as compared with 34% involvement in preparing EISs for the federal government. Conversely, 54% of local departments were involved in local report preparation as compared with 42% involved in the federal statement process. Additionally, project developers play a large role in the local EIS process, while consultants are more likely to be used in the federal process.

County data generally agree with these findings. About one-third of the responding counties have written an average of six EIS; and 37% have reviewed an average of seven EIS. Both figures are higher than for cities (see Tables 101 and 102). Larger counties are more likely than smaller counties to have written and reviewed an EIS. Metropolitan counties report greater involvement than other counties. The type of projects are similar, with the exception of fewer urban renewal projects (see Tables 103 and 104). Counties are more likely to use their departments to prepare impact statements and are less likely to make it the responsibility of the chief executive (or chief administrative officer) or to use outside consultants (see Table 105).

When the cities who have participated in the federal EIS process by either writing or reviewing statements were asked to comment upon the effects of the EIS process, 30% indicate there has been no effect. Somewhat fewer cities report project improvement as a result of the process--19% of those who have written statements and 28% of those who have reviewed them. Similar proportions report the process "provided" citizen participation in the decision making process--17% of the EIS-writing cities and 26% of the EIS-reviewing cities. However, a larger number list effects that may be considered criticisms--45% of EIS-writing cities feel the process has "consumed extensive staff time" and 45% indicate project delays (the proportions for EIS-reviewing cities are similar--40% and 43% respectively). A small proportion (5% of EIS-writing cities and 7% of EIS-reviewing cities) indicate projects have been "killed" as a result of the EIS process (see Tables 106 and 107).

The states see a greater impact for the federal EIS process. Only 11% indicate the process has no effect. Almost three-fourths (72%) report project improvement, and two-thirds (67%) report citizen participation. But, complaints are also more frequent, with 78% noting extensive staff time and 83% noting delay. Only 11% report a project has been killed as a result of the EIS process.

OTHER ASPECTS OF INTERGOVERNMENTAL RELATIONS

It has already been noted that besides indicating concerned local officials, cities are most likely to point to state or federal requirements as a major factor contributing to the development of environmental management programs (68%). In addition 38% credit state or federal financial incentives as a major factor, and 28% note the importance of enabling legislation.

The data for the counties indicate even higher proportions crediting state or federal requirements (77%) or financial incentives (51%) as factors contributing to the development of programs. Counties also are more likely to mention enabling legislation as a stimulus (46%).

In addition to this interrelationship of the three levels of government, approximately 15% of the cities report being the objects of suits regarding environmental matters in the last two years. Of these, one-third (34%) say the state government was the initiator of the suit. This represents 5% of all cities responding to our survey. The federal government is listed as the initiator of the suit by 7% of the cities (see Tables 108 and 109). The states in the North Central and Northeast are especially active, with over 40% of the cities in those regions which are sued naming the state government as the initiator. The counties responding to our survey were less likely to name the state as the initiator of suits even though the proportion being sued is approximately the same. No county reports being the object of a federally-initiated suit (see Tables 110 and 111).

Almost half of the responding cities (48%) indicate having some difficulty complying with state and/or federal standards for air or water quality. Water standards are causing the most problems for cities. Large cities generally are more likely to report difficulties, whether for water or air and whether the state or federal government is blamed. Central cities are also more likely than suburban (who are least likely) and independent cities to report difficulties (see Table 112). In response to an open-ended question on the problems of municipal chief executives in dealing with environmental matters the cities most frequently mentioned complaints about having to meet standards--sometimes changed while they are trying to comply with them--coupled with not receiving adequate financial assistance. Counties are even more likely to list difficulties meeting standards, suggesting county systems may be even more inadequate (see Table 113).

PROBLEMS OF INTERGOVERNMENTAL RELATIONS

When the cities were given an opportunity to indicate the nature of the problems they have encountered in their relations with the state and federal governments concerning environmental matters, two-thirds (67%) of them listed some complaint. Counties are only slightly less likely to complain (59%). The proportion of cities and counties listing a problem declines as the size of the governmental unit declines (e.g., 90% of the cities over 500,000 who respond to the questionnaire list at least one complaint, compared to 63% of the cities below 25,000). Whether this is due to differences in the quantity of intergovernmental relations, its quality, or the interest or sophistication of the respondents, is not clear. Western cities and counties are most likely to list a complaint (72% and 76%, respectively). Central cities are most likely and suburban cities least likely to indicate a problem (metropolitan counties are more likely than non-metropolitan); and local governments using a manager or administrator generally are more likely to answer this question than other governments.

The results that emerge from both city and county responses are similar in terms of complaints against both state and federal governments. The problem most frequently cited is inadequate funding. Of the cities responding to the questionnaire, 40% listed funding as a complaint against the state or federal government. It is as likely to be leveled against the federal government (by 32% of the cities) as against state governments. Of those listing any problem with the federal or state governments, the West and South are less likely to note funding than are cities in the Northeast and North Central regions. Suburbs are least likely to mention it. Central cities are most likely to list it as a complaint against state governments, but independent cities are most likely to list it as a complaint against the federal government (see Tables 114 and 115).

The second most frequently cited problem is uncertainty and delay in program administration. This may be a function of the fact that concern with the environment and the development of programs and organizations to administer them are recent phenomena. It is likely that the uncertainty will decline as knowledge about the problems and their potential solutions are increased, and as a clearer statement of goals and priorities are developed by the polity. But in the meantime, 35% of all cities list it as a problem, with 27% of the cities naming the federal government, while almost the same amount (25%) list the state government (see Table 116 for a summary). Western cities are most likely to name the states as committing this problem, but Southern cities are most likely to blame the federal government.

The third problem, conflicting or unreal standards is indicated by 32% of the cities. States are slightly more likely to be blamed (23%) than the federal government (20%). This problem, like the previous one reflecting uncertainty in program administration, may also clear up with time. Nevertheless, a lack of consensus on goals could continue to contribute to this complaint being made in the future. No clear patterns emerge. For instance, suburban cities are least likely to register this complaint against the federal government, but most likely to note it for state governments. This may reflect the fact that suburban cities are less likely than other cities to have contact with federal agencies.

Inadequate communication is noted as a problem by 27% of the cities, with 20% blaming the federal government and 21% citing the state governments. Cities in the Northeast are least likely to cite this problem. Smaller cities are more likely to cite it as a problem with state government than do larger cities.

Twenty-seven percent of the cities complained that local government participation in policy-making is inadequate. This is more likely to be attributed to local-state relations (23%) than to local-federal relations (18%). Whether cities participate more in federal than in state policy-making, or whether fewer expect to participate in either, is not clear. Southern cities are more likely than others to list this complaint--either against the federal government or against state governments. Non-metropolitan cities are less likely to make this complaint. Council-manager cities are more likely than mayor-council cities to blame state governments. But there is no difference in the proportions attributing the problem to the federal government.

Another point of view of local participation in state policy-making comes from the states' responses to our questionnaire concerning local participation in the drafting of state pollution plans (air, water, solid waste). They indicate that local participation in the form of serving on planning committees, or actually drafting segments of plans occurred more often (7 states) than lesser forms of participation such as merely reviewing plans or testifying at public hearings (6 states) or to have had no involvement at all (4 states). Data are incomplete for the other five states responding to our survey.

One-fifth (21%) complain about inadequate technical assistance. Again, there is a tendency to see this as a greater problem for local-state relations (18%) than local-federal relations (14%). And here too, differences in expectations may be important. State officials are considered a more important source of expertise than federal officials --in fact, more than twice as many cities say that state officials have been a source of expertise in the previous two years than federal officials have been. Northeastern cities and central cities are slightly more likely than other kinds of cities to register this complaint against the state or federal government.

Overlapping programs is also seen by approximately one fifth of the cities as an intergovernmental problem (15% citing the federal government and 14% of the states).

Unreasonable enforcement measures is the least mentioned (17%) of the eight problems to be noted by the cities. More cities are likely to blame the state (14%) than the federal government (8%), reflecting the division of responsibilities between the federal government as the standard setter and state governments as having the primary responsibility for enforcing the standards. The West is least likely to raise enforcement as a problem.

Data for the counties indicate approximately the same pattern, with some minor differences. There is a slight tendency for fewer counties to register a complaint (see Tables 117 and 118).

At the state level financing is listed as the major problem in their relations with the federal government--11 of 19 states responding note either general complaints or specific references to the problem of the Presidential impoundment of funds. Nine of the states are also critical of federal decision making, commenting on delays, changes, lack of decisions, or interagency conflicts. Four states complained about the nature of federal requirements (e.g., too little time to respond, or too detailed or excessive requirements).

Intergovernmental relations are affected not only by the local governments' perceptions of the other levels, but also by how the states and federal governments perceive local governments. The problem most frequently cited by the federal respondents concerning their relations with local government is a hesitancy on the part of local governments to make the necessary hard decisions. They perceive a tendency for local governments to look to other levels of government to make the decisions for them. Some federal respondents attribute this hesitancy to an inordinate amount of influence that developers and other special interests have over local governments. Several also refer to a lack of expertise available to local governments. Also cited is the fragmentation of responsibility at the local governmental level. Finances are mentioned by other respondents--one citing the local governments' lack of financial resources, while two others perceive the local governments as unwilling to fund programs.

The problem most frequently reported by states regarding encounters with local governments concerning environmental management deals with finances--the inability or the reluctance of local governments to finance needed programs. Several states also cite jurisdictional disputes or fragmentation of responsibility between local governments, in conjunction with charges of provincialism or hesitancy to participate in regional arrangements.

As in the development of any new intergovernmental program, there will undoubtedly be problems defining the roles and responsibilities between levels. When asked to indicate problems encountered with state and federal governments, most local governments did spell out some problems. The federal government is as likely to be the object of local complaints as the state government. The most frequently cited problem is inadequate financing. On the other hand, state and federal respondents are critical of local government hesitancy to act.

I. Problems in Environmental Management

Introduction

An understanding of the problems facing local governments in managing the environment is the focus of this section. Two questions in the survey comprise the basic sources of information. The first is a closed-ended question: "What are the major obstacles to environmental management in your municipality?" The other is an open-ended question: "What are the most critical problems facing you as chief executive in dealing with environmental matters?" The latter question gives the respondent an opportunity to either reinforce some of his previous responses, such as complaints about his relations with the state and federal governments; to reinforce some of his evaluations of the seriousness of various pollution problems, such as citing solid waste as one of the "critical problems... in dealing with environmental matters;" or, to indicate some aspects of environmental management not directly examined in the questionnaire such as problems of balancing the demands of "special interests" against the commonly invoked perceptions of "public interest."

OBSTACLES TO ENVIRONMENTAL MANAGEMENT

A summary of the responses of the city and county officials to the question "What are the major obstacles to environmental management in your municipality ?" are included in Tables 119 and 120. Clearly, inadequate finances is perceived as the most important obstacle. Almost three-fourths of the cities responding to this question cite inadequate finances as an obstacle. In every category of cities, this is the factor cited most frequently. Counties are almost as concerned about money--more than two-thirds of the counties cite it as an obstacle. The larger counties, however, cite fragmentation of responsibility between levels of government more frequently, as do counties in the Northeast, and those with an administrator. State respondents also recognize the seriousness of scarce financial resources--95% of the states cite this factor as an obstacle. While 69% of the federal respondents perceive inadequate finances as a serious problem, more of them (75%) cite fragmentation as a problem.

Besides financial problems, there is high agreement among respondents that the fragmentation of responsibility between levels of government is a serious obstacle to environmental management. Almost half of the cities (49%) cite it, as do 64% of the counties, 53% of the states, and 75% of the federal respondents. Although there is much agreement that the delineation of responsibility between the various levels of government for environmental management is not clear, it is unlikely that there would be consensus on how to resolve this problem. Evidence for this latter statement may be seen in the responses to a question directed to the state and federal officials asking them which unit of government (from local through regional to state) "should provide" a series of environmental management "services," e.g., air pollution abatement, solid waste disposal. A large majority of the states (67% to 88%) feel they should provide, or at least share in the provision of, services concerning air, noise, and water pollution abatement. For the other services (e.g., refuse collection, sewage, water supply and distribution) a majority of the states indicate cities should be the provider, except for solid waste disposal in which counties are cited slightly more frequently than cities. Federal respondents, on the other hand, prefer an "area-wide or multi-jurisdictional unit," and give the states a predominant edge only regarding sewer lines, and the cities only on noise pollution abatement and refuse collection.

The third major obstacle cited by cities is a lack of expertise. Thirty-eight percent (38%) of the cities cite this factor. Counties are somewhat less concerned, only 26% cite it, thereby placing it in fourth position (after "insufficient enabling legislation"). The state respondents also place it as the third most frequently cited with 42%. The federal respondents place it fourth, although 56% cited it as an obstacle for local governments. For the counties, the smaller ones are more likely to consider it a problem than the larger ones. There is no relationship between size and citing this factor for the cities.

Other indications that lack of expertise is a problem for local governments can be seen in the data on factors contributing to the development of environmental management programs. As mentioned earlier, the data indicate available expertise is the factor least likely to be mentioned (only 19% of the cities and 27% of the counties cite it). In addition, the local governments indicate elsewhere in the survey that they need additional training even though they have a variety of expertise available within their staffs. Only 13% of the cities and 21% of the counties do not indicate a need for some type of environmental training (see Tables 121 and 122). The greatest need for training comes in the broader areas of "general environment" (69% of the cities and 70% of the counties indicate a need for additional training in that area), environmental standards and enforcement (71% and 60%), and environmental impact statements (56% and 55%). Less need is expressed for more applied and technical areas of water (17% of the cities but 35% of the counties), liquid waste (22% and 32%), and solid waste (28% and 46%). This reflects the areas of expertise listed as available within their staff. For example, using city data only, 76% claim available expertise for water quality, 86% for sewerage, and 79% for solid waste in contrast to only 11% for environmental sciences, and 26% for environmental management. Other applied areas do show gaps, however, with only 16% of the cities indicating available internal expertise on air quality and 21% on noise. Land use expertise, however, is indicated as readily available, with 84% of the cities claiming such expertise. Larger cities and central cities generally have more expertise represented on their staffs (see Table 123). It is interesting to note that large and central cities generally are not less likely to indicate a need for training in a particular area, despite their higher availability. (see Table 124 for comparable county data).

The cities report a wide range of sources to supplement their own expertise. The source most frequently cited is state officials (68%). Consulting firms are the second most frequently cited source (60%). Other governmental sources include federal officials (32%), COG or other regional staff (29%), and other local governments (20%). Environmental groups (26%) and universities (18%) are additional sources. The wide range of sources indicates that the limitations of inadequate staff expertise can be overcome, and the nature of most of the sources indicates at little financial burden (see Table 125, which also indicates that the central cities and the large cities are more likely to be turning to federal officials than the other cities do). Suburban cities are least likely of the cities to turn to the federal level, and are most likely to turn to other local sources such as other cities and COGs. Counties also indicate substantial use of state and federal officials and outside consulting firms (see Table 126).

Inadequate methods to measure problems and an absence of necessary technology are cited as obstacles to environmental management by 36% and 28% of the cities, respectively. For the counties the proportions are 25% and 22% respectively, and for the state respondents it is 37% and 21% respectively. Federal officials are relatively more concerned about inadequate measures of the problem, as 61% indicate, making it their third priority. Thirty-three percent (33%) list inadequate technology as a major obstacle.

A lack of public support is indicated as an obstacle by approximately one-fifth of the local governments (21% of the cities and 19% of the counties). The proportion of counties listing it is the lowest for any of the eight obstacles included in the question. Almost one-third (32%) of the state officials cite it, as do 39% of the federal respondents.

Insufficient enabling legislation is mentioned by 19% of the cities as a major obstacle. Twice as many counties (38%) list it, reflecting their lack of authority. For counties, it is the third most frequently cited obstacle. State and federal respondents place it near the end of their list with 21% of the states and 36% of the federal agencies noting it.

Fragmentation of responsibility within city or county government is cited by 44% of the federal respondents (their fifth most frequently cited obstacle). The others are far less likely to see it as an obstacle--22% of the counties cite it, but only 11% of the cities and states see it as an obstacle. For the cities and states it is the least frequently cited factor.

In summary, inadequate finances and problems of fragmentation of responsibility between the levels of government are the two most frequently cited obstacles by city, county, state, and federal respondents alike.

CRITICAL PROBLEMS IN DEALING WITH ENVIRONMENTAL MATTERS

When asked to discuss the problems facing local government chief executives in environmental management, local officials substantiated much of the data from earlier closed-ended questions. The single problem cited more than any other by the respondents from each of the three levels of government deals with inadequate funds and financial resources. The local governments often link the problem to the other levels of government, sometimes referring to federal impounding of funds or complaining about meeting federal and state standards without adequate financial assistance from them. Occasionally, they note their inadequate tax base, and several local respondents admit a reluctance of their own city councils and citizens to appropriate the money.

Besides citing various pollution problems (such as water quality or solid waste) local executives' complaints involving federal and state governments are the second most frequently cited category of problems. Local governments are especially bitter about changing and/or "unrealistic" standards and guidelines. These complaints reflect the data cited earlier in Table 116 which indicates inadequate finances, administrative uncertainty or delay, and conflicting or unrealistic standards as the three most frequently reported problems cities have encountered in their relations with the state and federal governments. And as in the earlier data based on closed-ended questions, state governments are as likely to be pointed out as is the federal government.

Another common problem frequently noted by the local governments (and occasionally by the federal respondents but not by state officials) is the need for increased staff expertise. Sometimes the problem is simply cited as a need for expertise or knowledge, and sometimes the problem is stated in terms of a need for additional staff. This complaint is frequently tied to financial need by the local governments.

The need for public support is another frequent theme. Comments about apathy and public misunderstanding are voiced by respondents from all three levels of government.

A number of respondents at all levels of government relate problems facing the local chief executive in dealing with environmental matters to the other issues he must face. The scarcity of resources necessitates the development of priorities between the environment and other policy issues, and between the different environmental issues. Several local governments refer to a conflict between economic development or growth and environmental quality, or to other issue conflicts such as housing versus open-space. Several local governments mention the need for cost-benefit analyses or other determinations of "whether or not environmental concern is worth the social consequences that will follow it" (to use the words of one respondent). Sometimes the local governmental respondent complains about a lack of goals, either in general terms or specifically related to the environment.

Competition and conflict concerning community goals and priorities also leads to comments about the conflict between their spokesmen. A number of cities comment on the conflict between developers and environmentalists. The number of local government respondents who single out developers and "special interests" for criticism are about equal to the number who single out environmentalists as the object of their criticism.

The problem of fragmentation between levels of government is another problem that is broader than just environmental matters, but is cited by a number of respondents at all levels. Sometimes the comment refers to problems between the local, state and federal governments, but usually it refers to jurisdictional conflict between units of local government. Several cities and counties cite the fact that environmental problems that concern them are out of their jurisdiction--usually they mean another city in the area. Occasionally, though, their adverse comments refer to regional authorities. Other complaints about a lack of authority for local governments (a relatively common comment by federal respondents) often refer to the need for additional enabling legislation.

The specific environmental problems most frequently cited by the local governments are in the areas of water quality (especially the problem of sewage treatment) and solid waste disposal. General land use problems are also noted relatively frequently.

Although there is a wide range of other problems facing the local chief executive as listed by them as well as by respondents at the state and federal levels, the ones discussed above are the most frequent.

SUMMARY

Money to develop programs and hire the experts necessary to administer them, and the fragmentation of responsibility between various local governments and between local, state, and federal governments which complicates and exacerbates intergovernmental relations, are problems in environmental management which clearly emerge from the analyses of the data from open-ended and closed-ended questions answered by local, state, and federal officials.

APPENDIX 1

Municipal Year Book Urban Data Service

1140
Connecticut
Avenue
Northwest
Washington DC
20036

International
City
Management
Association

Environmental Management and Local Government Questionnaire – 1973

Instructions: In the following questions, the term "municipality" refers to your organization whether county, city, borough, town, township, or village; and the term "chief executive" is used to mean executives, managers, chief administrative officers, mayors, chairmen, or first selectmen.

I. Definition

1. Based on your own feelings, *rank* the following local issues according to their importance in your community. (Rank the items from 1 – 8; 1 = most important, 2 = next most important, etc. Do not use any number more than *once*.)

7-______ a. Crime
8-______ b. Education
9-______ c. Environment
10-______ d. Housing and urban blight
11-______ e. Taxes
12-______ f. Transportation
13-______ g. Welfare
14-______ h. Other (specify) ______________________

2. Various officials have differing definitions of the term "environment." Which of the following groups of items most closely agrees with your own definition of "environment." (Check one)

15-______ 1. Air, noise, sewerage, solid waste, toxic substances, water
______ 2. All in response "1" plus energy, historical preservation, land use and open space, radiation, population, and wildlife preservation
______ 3. All in responses "1" and "2" plus aesthetics, health, housing, mass transportation, recreation, streets and highways
______ 4. All in responses "1", "2" and "3" plus economic development, education, employment, public safety, and welfare

3. Rate the severity of the following problems in your municipality. (Circle one response for each item.)

No problem (1) (2) (3) (4) (5) Severe problem

16-	a. Aesthetics	1	2	3	4	5	f. Radiation	1	2	3	4	5	21
17-	b. Air	1	2	3	4	5	g. Solid waste	1	2	3	4	5	22
18-	c. Growth	1	2	3	4	5	h. Wastewater	1	2	3	4	5	23
19-	d. Land use	1	2	3	4	5	i. Water supply	1	2	3	4	5	24
20-	e. Noise	1	2	3	4	5	j. Other ________	1	2	3	4	5	25

NOTE: In the following questions, the term "environment" refers to the categories listed in Question 3.

II. Organization and Policy

4. Has your municipality adopted a statement of general environmental goals or policy? . . . . YES ( ) NO ( ) UNDER CONSIDERATION ( ) 26

If "YES," in what year was it adopted? . . . . 19______ 27-28

5. Does your municipality have a staff committee which meets regularly specifically to consider environmental matters? . . . . YES ( ) NO ( ) 29

6. Does your municipality have an environmental department or agency? . . . . YES ( ) NO ( ) 30

If "YES,"

A. Is it separate or a part of another department or agency?

31- ______ 1. Separate

______ 2. A part of an agency (Please specify) ______

B. In what year was it established? . . . . 19______ 32-33

C. Number of full-time professional and/or technical staff . . . . ______ 34-36

D. What are the department's primary functions? (Check all those applicable.)

37- ______ a. Research

38- ______ b. Planning

39- ______ c. Inspection and monitoring

40- ______ d. Enforcement

41- ______ e. Environmental impact assessment

42- ______ f. Program development

43- ______ g. Advisory functions

44- ______ h. Interdepartmental coordination

45- ______ i. Other (specify) ______

7. Has your municipality expanded the responsibility of previous existing citizen boards or commissions to include environmental problems and issues? . . . . YES ( ) NO ( ) 46

If "YES," which boards and commissions? (Check all applicable.)

47- ______ a. Park and recreation

48- ______ b. Planning

49- ______ c. Historic preservation

50- ______ d. Community development

51- ______ e. Other (specify) ______

______

8. Has your municipality created a citizen environmental board or commission which deals with environmental issues? . . . . YES ( ) NO ( ) 52

If "YES,"

A. In what year was it created? . . . . 19______ 53-54

B. How many members does it have? . . . . ______ 55-57

8. C. What are its primary functions? (Check all those applicable.)

58- ______ a. Investigate environmental problems
59- ______ b. Organize community programs
60- ______ c. Educate the public
61- ______ d. Advise the municipality's governing body
62- ______ e. Enforce environmental quality standards
63- ______ f. Other (specify) ____________________

D. Is this a specialized citizen environmental board or commission which deals with a specific environmental problem (e.g., Air Quality Board)? . . . . YES ( ) NO ( ) 64

If "YES," what topics does it consider? (Check all those applicable.)

65- ______ a. Air
66- ______ b. Water
67- ______ b. Solid waste
68- ______ c. Other (specify) ____________________

9. Has an official in your municipality been designated as having primary responsibility for environmental matters? . . . . YES ( ) NO ( ) 69

If "YES,"

A. Who is that official? (Check one)

70-
______ 1. The chief executive
______ 2. A staff member in the chief executive's office
(Specify position: ____________________)
______ 3. Head of environmental department of agency
______ 4. Head of another department
(Specify department: ____________________)
______ 5. Other (specify) ____________________

B. What are his primary environmental functions? (Check all those applicable.)

71- ______ a. Provide advice on environmental policy
72- ______ b. Develop environmental programs
73- ______ c. Supervise environmental activities
74- ______ d. Carry out operational responsibilities for environmental programs
75- ______ e. Other (specify) ____________________

III. Programs and Activities

10. In which of the following areas do you feel your municipality's staff has competence? (Check all those applicable.)

7- ______ a. Environmental management
8- ______ b. Environmental sciences
9- ______ c. Air quality
10- ______ d. Land use
11- ______ e. Noise
12- ______ f. Sewerage
13- ______ g. Solid waste
14- ______ h. Water quality
15- ______ i. Other (specify) ____________________

11. What type of environment-related training is needed for the management staff of your municipality? (Check all those applicable.)

16- ______ a. General environment
17- ______ b. Environment standards and enforcement
18- ______ c. Environmental impact statements
19- ______ d. Liquid waste
20- ______ e. Solid waste
21- ______ f. Water
22- ______ g. Other (specify) ____________________
23- ______ h. None

12. Who has provided environmental expertise to your municipality in the past two years outside your own municipality's staff? (Check all those applicable.)

24- ______ a. Other local governments
25- ______ b. COG or other regional staff
26- ______ c. State officials
27- ______ d. Federal officials
28- ______ e. Consulting firm
29- ______ f. University staff
30- ______ g. Environmental groups
31- ______ h. Other (specify) ____________________

13. What are the *most* important or innovative actions or programs your municipality has undertaken in the last two years to improve or safeguard the environment?

____

____

____

____

14. Has your municipality adopted a formal requirement for environmental impact statements? (Check one only):

32- ______ 1. on public and private projects?

______ 2. on public projects only?

______ 3. on private projects only?

______ 4. none

A. If "PUBLIC," which projects are assessed?

33- ______ a. All public projects

34- ______ b. Public projects over a minimum cost (Specify cost: ______________________)

35- ______ c. Other (specify) ______________________

B. If "PRIVATE," which projects are assessed? (Check all those applicable.)

36- ______ a. All private projects

37- ______ b. Private projects over a minimum cost (Specify cost: ______________________)

38- ______ c. Private projects over a minimum number of units (Specify number: ______________________)

39- ______ d. Other (specify) ______________________

C. If "PUBLIC" and/or "PRIVATE," who writes the statements? (Check all those applicable.)

40- ______ a. Chief executive's office

41- ______ b. Environmental department

42- ______ c. Other department(s)

43- ______ d. Outside consultant to municipality

44- ______ e. Private developer

45- ______ f. Other (specify) ______________

D. If "PUBLIC" and/or "PRIVATE," who reviews the statements? (Check those applicable.)

46- ______ a. Citizens or citizen groups

47- ______ b. Municipality's legislative body

48- ______ c. Chief executive

49- ______ d. Administrative staff

50- ______ e. Other (specify) ______________

15. Does your master plan include a conservation (environmental) section? . . . . YES ( ) NO ( ) UNDER CONSIDERATION ( ) 51

16. Which of the following *land use* controls have been enacted by your municipality? (Check all those applicable.)

52- ______ a. Architectural appearance

53- ______ b. Flood plain zoning

54- ______ c. Growth limitations

55- ______ d. Historical preservation

56- ______ e. Marshland controls

57- ______ f. Open space zoning

58- ______ g. Required installation of public facilities (e.g., sewers) by developers

59- ______ h. Required dedication of land for public purposes (e.g., schools, parks) by developers

60- ______ i. Zoning for protection of natural resources or ecological systems

61- ______ j. Other (specify) ______________

17. Which of the following controls have been enacted by your municipality? (Check all those applicable.)

62- ______ a. Abandoned vehicle ordinance
63- ______ b. Tree preservation ordinance
64- ______ c. Erosion control ordinance
65- ______ d. Grading (excavation) ordinance
66- ______ e. Housing code
67- ______ f. Noise ordinance
68- ______ g. Restrictions on nonreturnable bottles
69- ______ h. Sanitation (refuse) ordinance
70- ______ i. Sign ordinance
71- ______ j. Other (specify) ______________

18. In which of the following areas has *your municipality* officially adopted, monitored, or enforced environmental quality standards?

Environmental area	Standards adopted (Check)	Regularly monitored/ measured (Check)	Name of enforcing department	Number of enforcement staff
a. Air	______ (7)	______ (8)	______ (9)	______ (10-12)
b. Noise	______ (13)	______ (14)	______ (15)	______ (16-18)
c. Sewerage	______ (19)	______ (20)	______ (21)	______ (22-24)
d. Water	______ (25)	______ (26)	______ (27)	______ (28-30)

19. Has your municipality sponsored, either by itself or jointly with other governmental bodies, conferences for *enforcing* environmental standards? . . . . YES ( ) NO ( ) UNDER CONSIDERATION ( ) 31

If "YES," please specify. ______________________________

20. Does your municipality have tax incentives or subsidies to stimulate business and industry to develop programs for improving environmental quality? . . . . YES ( ) NO ( ) UNDER CONSIDERATION ( ) 32

If "YES," please specify. ______________________________

21. Does your municipality have a penalty (fine or tax) structure in which business and industry pay for discharging pollutants directly into the environment? . . . . YES ( ) NO ( ) UNDER CONSIDERATION ( ) 33

If "YES," please specify. ______________________________

22. Has your municipality imposed a moratorium based on environmental considerations in the last two years? . . . . YES ( ) NO ( ) 34

If "YES,"

A. What was delayed? (Check all those applicable.)

35- ______ a. Issuance of building permits
36- ______ b. Requests for rezoning
37- ______ c. Water or sewer connections
38- ______ d. Other (specify) ______________

B. Why was the moratorium imposed? ______________________________

____

____

C. How many months was the moratorium in effect? (If still in effect, how long has it been in effect?) . . . . ______ (39-40) months

23. Has your municipality *initiated* any major legal suit(s) regarding environmental matters in the last two years? . . . . YES ( ) NO ( ) 41

If "YES," what was the subject of the suit(s)? ____

____

____

24. Has your municipality *been the object of* any environmental suit(s) in the last two years? . . . . YES ( ) NO ( ) 42

If "YES,"

A. Who brought the suit(s)? (Check all those applicable.)

43- ______ a. Environmental group
44- ______ b. Private business
45- ______ c. State governments
46- ______ d. Federal government
47- ______ e. Other (specify) ______________________

B. What was the subject of the suit(s)? ____

____

____

25. What are the major factors contributing to your municipality developing environmental management programs? (Check all those applicable.)

48- ________ a. Environmental deterioration
49- ________ b. Concerned municipal officials
50- ________ c. Enabling legislation
51- ________ d. Available expertise
52- ________ e. State or federal financial incentives or assistance
53- ______ f. Public support
54- ______ g. Active environmental or civic groups
55- ______ h. State or federal requirements
56- ______ i. Other (specify) ______________________

26. What are the major obstacles to environmental management in your municipality? (Check all those applicable.)

57- ________ a. Insufficient enabling legislation
58- ________ b. Lack of public support
59- ________ c. Inadequate methods to measure problems
60- ________ d. Lack of expertise
61- ________ e. Inadequate finances
62- ______ f. Fragmentation of responsibility between levels of government
63- ______ g. Fragmentation of responsibility within municipality
64- ______ h. Absence of necessary technology
65- ______ i. Other (specify) ______________________

IV. Intergovernmental Programs and Activities

27. Indicate the frequency of contact your municipality has (had) with federal agencies regarding environmental problems. (Circle one for each item.)

	Very frequent	Frequent	Infrequent	Very infrequent	None	
a. Corps of Engineers	1	2	3	4	5	66
b. Department of Housing and Urban Development	1	2	3	4	5	67
c. Department of Interior	1	2	3	4	5	68
d. Department of Transportation	1	2	3	4	5	69
e. Environmental Protection Agency	1	2	3	4	5	70
f. Other (specify) ____________________	1	2	3	4	5	71

28. How would you evaluate your municipality's contact with the U.S. Environmental Protection Agency's central and regional offices? (Circle one for each item.)

	Very satis-factory	Satis-factory	Neutral	Unsatis-factory	Very unsatis-factory	No contact	
a. Central office	1	2	3	4	5	6	72
b. Regional office	1	2	3	4	5	6	73

29. Has your municipality participated in the writing of federal environmental impact statements? . . . . YES ( ) NO ( ) 74

If "YES,"

A. How many statements? . . . . ________________ 75-77

B. What types of projects did the statements concern? (Check all those applicable.)

7- ______ a. Airport
8- ______ b. Electric power
9- ______ c. Flood control
10- ______ d. Roads
11- ______ e. Urban renewal
12- ______ f. Other (specify) ________________

C. Who writes the statements? (Check all those applicable.)

13- ______ a. Chief executive's office
14- ______ b. Environmental department
15- ______ c. Other department(s)
16- ______ d. Outside consultant
17- ______ e. Another governmental agency
18- ______ f. Other (specify) ________________

30. Has your municipality participated in *reviewing* federal environmental impact statements? . . . . YES ( ) NO ( ) 19

If "YES,"

A. How many statements? . . . . ________________ 20-22

B. What types of projects did the statements concern? (Check all those applicable.)

23- ______ a. Airport
24- ______ b. Electric power
25- ______ c. Flood control
26- ______ d. Roads
27- ______ e. Urban renewal
28- ______ f. Other (specify) ________________

31. What major effects, if any, has the federal environmental impact procedure caused in your municipality? (Check all those applicable.)

29- ________ a. Resulted in project improvements
30- ________ b. Provided citizen participation
31- ________ c. Consumed extensive staff time
32- ______ d. Delayed project(s)
33- ______ e. "Killed" project(s)
34- ______ f. No effect

32. With which of the following state and/or federal standards is your municipality having difficulty complying? (Check all those applicable.)

35- ________ a. State air quality
36- ________ b. Federal air quality
37- ________ c. State water quality
38- ______ d. Federal water quality
39- ______ e. None

33. Has your municipality participated in enforcement conferences during the last two years sponsored by the U.S. Environmental Protection Agency? . . . . YES ( ) NO ( ) 40

If "YES," please specify. ____

____

34. Which of the following problems have you encountered in your relations with state and federal governments concerning environmental management? (Check those applicable for both federal and state levels.)

	State (1)	Federal (2)	
41-	______	______	a. Overlapping programs
42-	______	______	b. Conflicting or unrealistic standards
43-	______	______	c. Unreasonable enforcement measures
44-	______	______	d. Inadequate local participation in policy making

	State (1)	Federal (2)	
45-	______	______	e. Inadequate communication
46-	______	______	f. Inadequate technical assistance
47-	______	______	g. Uncertainty and delay of program administration
48-	______	______	h. Inadequate funding
49-	______	______	i. Other (specify) ______________

35. If you have implemented the following environmental strategies, how effective *have* they *been* in promoting and securing environmental quality? If you have not used the following environmental strategies, in your opinion, how effective do you think they *would be*? (Circle appropriate response.)

	Very effective	Effective	Neutral	Ineffective	Very ineffective	Don't know	
a. Environmental agency	1	2	3	4	5	6	50
b. Citizen advisory board	1	2	3	4	5	6	51
c. Environmental impact statements	1	2	3	4	5	6	52
d. Land use controls.	1	2	3	4	5	6	53
e. Environmental quality standards	1	2	3	4	5	6	54
f. Enforcement conferences	1	2	3	4	5	6	55
g. Tax incentives	1	2	3	4	5	6	56
h. Penalty charges	1	2	3	4	5	6	57
i. Moratoriums	1	2	3	4	5	6	58
j. Law suits	1	2	3	4	5	6	59
k. Intergovernmental and regional arrangements	1	2	3	4	5	6	60

36. What are the most critical problems facing you as chief executive in dealing with environmental matters?

____

____

____

____

____

Please attach copies of any environmental reports or ordinances where appropriate to the items discussed above. Thank you for your assistance!

Name ______________________________ Title ______________________

APPENDIX 2

TABLE 1.

CITY RESPONSE RATE

CLASSIFICATION	NO. OF CITIES SURVEYED	CITIES RESPONDING #	CITIES RESPONDING %
TOTAL, ALL CITIES	2282	1115	49
POPULATION GROUP			
OVER 500,000	26	10	38
250,000-500,000	30	18	60
100,000-250,000	98	61	62
50,000-100,000	255	142	56
25,000- 50,000	520	282	54
10,000- 25,000	1353	602	44
5,000- 10,000	0	0	0
2,500- 5,000	0	0	0
UNDER 2,500	0	0	0
GEOGRAPHIC REGION			
NORTHEAST	705	252	36
NORTH CENTRAL	669	327	49
SOUTH	540	274	51
WEST	368	262	71
METRO/CITY TYPE			
CENTRAL	349	195	56
SUBURBAN	1255	592	47
INDEPENDENT	678	328	48
FORM OF GOVERNMENT			
MAYOR-COUNCIL	925	279	30
COUNCIL-MANAGER	1106	769	70
COMMISSION	122	34	28
TOWN MEETING	85	25	29
REP. TOWN MEETING	44	8	18

TABLE 2.

COUNTY RESPONSE RATE

CLASSIFICATION	NO. OF COUNTIES SURVEYED	COUNTIES RESPONDING #	%
TOTAL, ALL COUNTIES	639	177	28
POPULATION GROUP			
OVER 500,000	58	25	43
250,000-500,000	70	27	39
100,000-250,000	185	57	31
50,000-100,000	326	68	21
25,000- 50,000	0	0	0
10,000- 25,000	0	0	0
5,000- 10,000	0	0	0
2,500- 5,000	0	0	0
UNDER 2,500	0	0	0
GEOGRAPHIC REGION			
NORTHEAST	127	40	31
NORTH CENTRAL	183	49	27
SOUTH	237	55	23
WEST	92	33	36
METRO STATUS			
METRO	383	119	31
NON METRO	256	58	23
FORM OF GOVERNMENT			
WITHOUT ADMINISTRATOR	169	56	33
WITH ADMINISTRATOR	151	69	46
UNKNOWN	319	52	16

TABLE 3.

CITY DEFINITION OF "ENVIRONMENT"

	NO. OF REPORTING (A)	DEFINED MOST NARROWLY NO.	% A	DEFINED LESS NARROWLY NO.	% A	DEFINED MORE BROADLY NO.	% A	DEFINED MOST BROADLY NO.	% A
TOTAL, ALL CITIES	1100	188	17	281	26	258	23	373	34
POPULATION GROUP									
OVER 500,000	10	2	20	2	20	5	50	1	10
250,000-500,000	18	4	22	2	11	7	39	5	28
100,000-250,000	60	5	8	11	18	17	28	27	45
50,000-100,000	142	19	13	38	27	43	30	42	30
25,000- 50,000	280	46	16	74	26	63	23	97	35
10,000- 25,000	590	112	19	154	26	123	21	201	34
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	249	54	22	79	32	58	23	58	23
NORTH CENTRAL	321	68	21	74	23	65	20	114	36
SOUTH	270	55	20	70	26	58	21	87	32
WEST	260	11	4	58	22	77	30	114	44
METRO/CITY TYPE									
CENTRAL	194	28	14	43	22	57	29	66	34
SUBURBAN	582	100	17	149	26	138	24	195	34
INDEPENDENT	324	60	19	89	27	63	19	112	35
FORM OF GOVERNMENT									
MAYOR-COUNCIL	276	64	23	64	23	48	17	100	36
COUNCIL-MANAGER	758	108	14	201	27	193	25	256	34
COMMISSION	34	9	26	6	18	8	24	11	32
TOWN MEETING	25	7	28	8	32	5	20	5	20
REP. TOWN MEETING	7	0	0	2	29	4	57	1	14

TABLE 4.

COUNTY DEFINITION OF "ENVIRONMENT"

	NO. OF REPORTING (A)	DEFINED MOST NARROWLY		DEFINED LESS NARROWLY		DEFINED MORE BROADLY		DEFINED MOST BROADLY	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	174	32	18	41	24	35	20	66	38
POPULATION GROUP									
OVER 500,000	25	2	8	7	28	8	32	8	32
250,000-500,000	27	7	26	5	19	6	22	9	33
100,000-250,000	56	7	13	11	20	15	27	23	41
50,000-100,000	66	16	24	18	27	6	9	26	39
25,000- 50,000	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	40	6	15	12	30	12	30	10	25
NORTH CENTRAL	46	14	30	6	13	10	22	16	35
SOUTH	55	8	15	15	27	3	5	29	53
WEST	33	4	12	8	24	10	30	11	33
METRO STATUS									
METRO	118	19	16	27	23	30	25	42	36
NON METRO	56	13	23	14	25	5	9	24	43
FORM OF GOVERNMENT									
WITHOUT ADMINISTRATOR	55	15	27	17	31	4	7	19	35
WITH ADMINISTRATOR	69	11	16	15	22	20	29	23	33
UNKNOWN	50	6	12	9	18	11	22	24	48

TABLE 5.

CITY RATED SEVERITY OF ENVIRONMENTAL PROBLEMS

(1=NO PROBLEM, 5=SEVERE PROBLEM)

	AESTHETICS WEIGHTED		AIR WEIGHTED		GROWTH WEIGHTED		LAND USE WEIGHTED		NOISE WEIGHTED		RADIATION WEIGHTED		SOLID WSTE WEIGHTED		WST.WATER WEIGHTED		WATER SPLY WEIGHTED			AVERAGE
	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN*
TOTAL, ALL CITIES	1073	2.8	1083	2.3	1089	3.2	1093	3.3	1088	2.4	1077	1.2	1094	3.2	1086	3.2	1079	2.4	137	2.67
POPULATION GROUP																				
OVER 500,000	10	2.8	10	2.8	10	3.3	10	3.3	10	2.6	10	1.4	10	3.1	10	3.2	10	2.5	1	2.78
250,000-500,000	18	2.8	18	2.7	18	2.8	18	3.9	18	2.2	18	1.3	18	3.5	17	3.1	17	2.0	1	2.70
100,000-250,000	61	2.9	61	2.6	61	3.3	61	3.4	61	2.4	61	1.2	61	3.2	61	3.2	61	2.5	7	2.72
50,000-100,000	139	2.9	140	2.5	142	3.2	142	3.3	140	2.5	140	1.3	142	3.1	141	3.0	140	2.2	24	2.67
25,000- 50,000	272	2.8	278	2.4	277	3.1	278	3.3	277	2.5	275	1.3	278	3.1	279	3.1	276	2.4	44	2.67
10,000- 25,000	573	2.7	576	2.1	581	3.2	584	3.3	580	2.3	573	1.2	584	3.3	578	3.2	575	2.4	70	2.63
5,000- 10,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
2,500- 5,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
UNDER 2,500	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
GEOGRAPHIC REGION																				
NORTHEAST	241	2.6	241	2.1	244	3.2	245	3.4	242	2.3	239	1.3	245	3.6	240	3.2	239	2.2	24	2.66
NORTH CENTRAL	312	2.7	315	2.2	319	3.0	319	3.2	319	2.3	315	1.3	319	3.2	320	3.1	317	2.2	45	2.58
SOUTH	264	2.8	266	2.1	270	3.2	271	3.4	268	2.3	267	1.2	271	3.3	270	3.4	268	2.0	33	2.70
WEST	256	3.0	257	2.8	256	3.2	255	3.4	257	2.0	256	1.2	258	2.7	256	2.5	257	2.5	31	2.70
METRO/CITY TYPE																				
CENTRAL	193	2.9	195	2.4	195	3.1	195	3.4	194	2.3	193	1.2	195	3.2	194	3.3	193	2.5	17	2.68
SUBURBAN	567	2.7	573	2.4	576	3.2	576	3.3	575	2.5	570	1.2	578	3.2	574	3.1	571	2.4	84	2.67
INDEPENDENT	313	2.8	315	2.0	318	3.1	322	3.2	317	2.2	314	1.3	320	3.3	318	3.2	315	2.4	36	2.61
FORM OF GOVERNMENT																				
MAYOR-COUNCIL	263	2.6	267	2.2	269	3.0	272	3.2	268	2.3	262	1.3	271	3.4	268	3.2	264	2.0	34	2.58
COUNCIL-MANAGER	749	2.9	753	2.4	756	3.2	757	3.3	754	2.4	750	1.2	758	3.1	755	3.2	751	2.5	93	2.69
COMMISSION	31	2.6	32	2.0	33	3.2	33	3.4	33	2.1	33	1.0	33	3.3	33	3.1	33	2.3	7	2.56
TOWN MEETING	24	2.0	25	1.6	24	3.7	24	3.6	25	1.8	25	1.2	25	3.6	24	3.2	25	2.5	2	2.58
REP. TOWN MEETING	6	3.0	6	1.8	7	3.1	7	3.5	6	2.3	7	1.4	6	3.3	6	3.1	6	1.6	1	2.59

*Average mean calculated from severity scores.

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TABLE 6

COUNTY RATED SEVERITY OF ENVIRONMENTAL PROBLEMS

(1=NO PROBLEM, 5=SEVERE PROBLEM)

	AESTHETICS		AIR		GROWTH		LAND USE		NOISE		RADIATION		SOLID WSTE		WSTEWATER		WATER SPLY			
	WEIGHTED		WEIGHTED		WEIGHTED		WEIGHTED		WEIGHTED		WEIGHTED		WEIGHTED		WEIGHTED		WEIGHTED			AVERAGE
	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN	NO.	MEAN*
TOTAL, ALL COUNTIES	168	2.7	169	2.5	170	3.3	172	3.6	169	2.3	170	1.3	173	3.7	171	3.5	168	2.8	25	2.86
POPULATION GROUP																				
OVER 500,000	25	2.7	25	3.1	25	3.3	25	3.7	25	3.0	25	1.2	25	3.7	25	3.7	24	2.5	4	2.99
250,000-500,000	26	2.9	26	2.8	27	3.5	27	3.9	27	2.4	27	1.3	27	3.8	27	4.1	27	2.9	5	3.06
100,000-250,000	54	2.8	54	2.5	54	3.4	55	3.6	55	2.3	54	1.3	56	3.7	56	3.3	55	3.0	7	2.88
50,000-100,000	63	2.5	64	2.0	64	3.1	65	3.3	62	1.9	64	1.5	65	3.6	63	3.5	62	2.7	9	2.68
25,000- 50,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
10,000- 25,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
5,000- 10,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
2,500- 5,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
UNDER 2,500	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	
GEOGRAPHIC REGION																				
NORTHEAST	39	2.9	38	2.3	40	3.1	40	3.6	38	2.1	40	1.4	40	4.0	39	3.9	39	2.7	7	2.86
NORTH CENTRAL	46	2.4	46	2.3	46	3.2	46	3.4	46	2.2	45	1.3	46	3.7	46	3.4	45	2.0	4	2.72
SOUTH	51	2.7	53	2.2	51	3.6	53	3.6	52	2.3	52	1.4	54	3.8	53	3.6	51	3.0	6	2.91
WEST	32	2.6	32	3.3	33	3.2	33	3.7	33	2.4	33	1.2	33	3.1	32	3.2	33	2.6	6	2.83
METRO STATUS																				
METRO	115	2.7	115	2.6	116	3.5	117	3.7	117	2.4	116	1.2	118	3.7	118	3.5	115	2.9	10	2.91
NON METRO	53	2.5	54	2.1	54	3.0	55	3.3	52	2.0	54	1.5	55	3.5	53	3.5	53	2.6	9	2.83
FORM OF GOVERNMENT																				
WITHOUT ADMINISTRATOR	54	2.6	54	2.5	55	3.2	55	3.4	52	2.1	53	1.5	55	3.6	53	3.5	53	2.0	6	2.80
WITH ADMINISTRATOR	66	2.5	66	2.7	67	3.4	67	3.7	68	2.4	68	1.2	66	3.7	68	3.5	67	2.6	10	2.86
UNKNOWN	48	2.8	49	2.1	48	3.3	50	3.6	49	2.3	49	1.3	50	3.7	50	3.6	48	3.0	7	2.86

*Average mean calculated from mean severity scores

TABLE 7.

CITY RANKED IMPORTANCE OF ENVIRONMENT AS ISSUE

	NO. OF REPORTING (A)	ENVIR CON-SIDERED MOST IMPOR NO.	ENVIR CON-SIDERED MOST IMPOR % A	ENVIR CON-SIDERED LEAST IMPOR NO.	ENVIR CON-SIDERED LEAST IMPOR % A
TOTAL, ALL CITIES	1061	345	32	157	15
POPULATION GROUP					
OVER 500,000	8	2	25	2	25
250,000-500,000	18	2	11	3	17
100,000-250,000	61	13	21	17	28
50,000-100,000	140	49	35	19	14
25,000- 50,000	276	78	28	53	19
10,000- 25,000	578	201	35	63	11
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	242	56	23	36	15
NORTH CENTRAL	316	92	29	48	15
SOUTH	267	85	32	45	17
WEST	256	112	44	28	11
METRO/CITY TYPE					
CENTRAL	192	50	26	40	21
SUBURBAN	573	206	36	64	11
INDEPENDENT	316	89	28	53	17
FORM OF GOVERNMENT					
MAYOR-COUNCIL	265	74	28	49	18
COUNCIL-MANAGER	755	256	34	100	13
COMMISSION	30	4	13	6	20
TOWN MEETING	24	9	38	1	4
REP. TOWN MEETING	7	2	29	1	14

TABLE 8

CITY RANKED LOCAL ISSUES

(1=MOST IMPORTANT, 5=LEAST)

	CRIME		EDUCATION		ENVIRONMENT		HSG/URBAN BLIGHT		TAXES		TRANSPORTATION		WELFARE		OTHER	
	#	MEAN	#	MEAN	#	MEAN	#	MEAN	#	MEAN	#	MEAN	#	MEAN	#	MEAN
TOTAL, ALL CITIES	872	3.1	847	2.9	924	3.0	771	2.9	860	2.4	632	3.4	278	3.9	228	2.0
POPULATION GROUP																
OVER 500,000	7	2.7	6	3.5	6	3.3	6	2.8	5	2.4	7	3.1	2	3.5	1	2.0
250,000-500,000	18	2.3	12	3.2	15	3.7	16	2.7	12	2.4	10	3.5	4	4.5	3	2.3
100,000-250,000	46	2.5	48	3.1	44	3.2	49	2.7	41	3.1	40	3.6	19	3.4	16	1.6
50,000-100,000	119	3.0	97	2.9	121	2.9	103	2.9	113	2.5	85	3.5	39	4.0	28	1.7
25,000- 50,000	222	3.0	215	3.0	223	3.0	193	2.9	226	2.4	173	3.4	74	4.0	58	1.6
10,000- 25,000	458	3.3	409	2.8	515	2.9	404	2.9	463	2.4	317	3.4	140	3.8	122	2.2
5,000- 10,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2,500- 5,000	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
UNDER 2,500	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
GEOGRAPHIC REGION																
NORTHEAST	182	3.2	203	2.7	206	3.3	160	3.1	237	1.9	136	3.5	56	4.1	41	2.2
NORTH CENTRAL	247	3.1	238	3.0	268	3.1	221	2.9	265	2.2	195	3.5	75	3.8	69	1.9
SOUTH	228	3.0	212	2.9	222	3.0	213	2.6	170	3.1	154	3.1	78	3.8	56	1.9
WEST	215	3.0	194	2.9	228	2.6	177	3.1	188	2.8	147	3.5	69	3.8	62	2.0
METRO/CITY TYPE																
CENTRAL	152	2.8	138	3.1	152	3.2	158	2.7	134	2.6	115	3.3	68	3.9	45	1.8
SUBURBAN	494	3.1	459	2.8	509	2.9	345	3.2	485	2.5	354	3.5	101	4.0	119	2.1
INDEPENDENT	226	3.2	250	2.9	263	3.1	268	2.6	241	2.5	163	3.4	105	3.7	64	1.9
FORM OF GOVERNMENT																
MAYOR-COUNCIL	209	3.1	196	3.0	216	3.1	198	2.9	231	2.2	160	3.4	85	3.7	45	2.0
COUNCIL-MANAGER	622	3.1	594	2.9	655	2.9	539	2.9	574	2.6	432	3.4	178	3.9	170	2.0
COMMISSION	20	2.6	[illegible]	2.9	24	3.7	22	2.8	23	2.1	21	3.4	9	3.8	8	1.5
TOWN MEETING	16	4.0	23	2.5	23	2.7	12	4.2	24	1.5	14	4.0	4	4.0	4	3.0
REP. TOWN MEETING	5	3.2	8	2.5	6	3.0	0	.0	8	1.7	5	3.2	2	5.0	1	1.0

TABLE 9.

CITY STATEMENT OF ENVIRONMENTAL POLICY

	NO. OF REPORTING (A)	HAVE ADOPTED A STATEMENT		HAVE NOT ADOPTED A STATEMENT		ADOPTION UNDER CON-SIDERATION	
		NO.B	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	1094	215	20	622	57	257	23
POPULATION GROUP							
OVER 500,000	10	5	50	3	30	2	20
250,000-500,000	18	5	28	9	50	4	22
100,000-250,000	60	18	30	26	43	16	27
50,000-100,000	142	37	26	65	46	40	28
25,000- 50,000	279	56	20	169	61	54	19
10,000- 25,000	585	94	16	350	60	141	24
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	249	26	10	151	61	72	29
NORTH CENTRAL	318	47	15	212	67	59	19
SOUTH	269	46	17	169	63	54	20
WEST	258	96	37	90	35	72	28
METRO/CITY TYPE							
CENTRAL	192	50	26	101	53	41	21
SUBURBAN	579	117	20	306	53	156	27
INDEPENDENT	323	48	15	215	67	60	19
FORM OF GOVERNMENT							
MAYOR-COUNCIL	275	56	20	145	53	74	27
COUNCIL-MANAGER	753	148	20	440	58	165	22
COMMISSION	33	7	21	20	61	6	18
TOWN MEETING	25	3	12	15	60	7	28
REP. TOWN MEETING	8	1	13	2	25	5	63

TABLE 10

YEAR CITY ENVIRONMENTAL STATEMENT ADOPTED

	HAVE ADOPTED A STATEMENT	PRIOR TO 1950		IN 1951 TO 1964		IN 1965 TO 1969		DURING 1970		DURING 1971		DURING 1972		DURING 1973	
	(A)	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	215	3	1	8	4	33	15	21	10	44	20	72	33	25	12
POPULATION GROUP															
OVER 500,000	5	0	0	1	20	2	40	1	20	1	20	0	0	0	0
250,000-500,000	5	0	0	1	20	1	20	0	0	1	20	1	20	1	20
100,000-250,000	18	0	0	0	0	6	33	2	11	3	17	6	33	1	6
50,000-100,000	37	0	0	0	0	2	5	4	11	7	19	18	49	6	16
25,000- 50,000	56	0	0	2	4	10	18	3	5	14	25	20	36	4	7
10,000- 25,000	94	3	3	4	4	12	13	11	12	16	19	27	29	13	14
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION															
NORTHEAST	26	1	4	2	8	5	19	4	15	5	19	6	23	0	0
NORTH CENTRAL	47	1	2	3	6	12	26	5	11	11	23	10	21	2	4
SOUTH	46	1	2	3	7	7	15	6	13	9	20	12	26	7	15
WEST	96	0	0	0	0	9	9	6	6	19	20	44	46	16	17
METRO/CITY TYPE															
CENTRAL	50	0	0	2	4	15	30	5	10	10	20	12	24	5	10
SUBURBAN	117	2	2	3	3	10	9	10	9	20	17	51	44	16	14
INDEPENDENT	48	1	2	3	6	8	17	6	13	14	29	9	19	4	8
FORM OF GOVERNMENT															
MAYOR-COUNCIL	56	2	4	4	7	10	18	7	13	10	18	17	30	2	4
COUNCIL-MANAGER	148	1	1	3	2	23	16	10	7	33	22	52	35	23	16
COMMISSION	7	0	0	1	14	0	0	2	29	0	0	3	43	0	0
TOWN MEETING	3	0	0	0	0	0	0	2	67	0	0	0	0	0	0
REP. TOWN MEETING	1	0	0	0	0	0	0	0	0	1	100	0	0	0	0

TABLE 11.

COUNTY STATEMENT OF ENVIRONMENTAL POLICY

	NO. OF REPORTING (A)	HAVE ADOPTED A STATEMENT		HAVE NOT ADOPTED A STATEMENT		ADOPTION UNDER CONSIDERATION	
		NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	172	46	27	84	49	42	24
POPULATION GROUP							
OVER 500,000	24	7	29	8	33	9	38
250,000-500,000	27	9	33	12	44	6	22
100,000-250,000	56	17	30	27	48	12	21
50,000-100,000	65	13	20	37	57	15	23
25,000- 50,000	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	40	11	28	18	45	11	28
NORTH CENTRAL	46	9	20	23	50	14	30
SOUTH	54	12	22	33	61	9	17
WEST	32	14	44	10	31	8	25
METRO STATUS							
METRO	117	32	27	56	48	29	25
NON METRO	55	14	25	28	51	13	24
FORM OF GOVERNMENT							
WITHOUT ADMINISTRATOR	55	16	29	28	51	11	20
WITH ADMINISTRATOR	67	21	31	29	43	17	25
UNKNOWN	50	9	18	27	54	14	28

TABLE 12

YEAR COUNTY ENVIRONMENTAL STATEMENT ADOPTED

	HAVE ADOPTED A STATEMENT (B)	PRIOR TO 1950		IN 1951 TO 1964		IN 1965 TO 1969		DURING 1970		DURING 1971		DURING 1972		DURING 1973	
		NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	46	0	0	2	4	9	20	6	13	9	20	13	28	4	9
POPULATION GROUP															
OVER 500,000	7	0	0	1	14	1	14	2	29	0	0	2	29	1	14
250,000-500,000	9	0	0	0	0	3	33	1	11	2	22	2	22	0	0
100,000-250,000	17	0	0	1	6	3	18	0	0	5	29	4	24	3	18
50,000-100,000	13	0	0	0	0	2	15	3	23	2	15	5	38	0	0
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION															
NORTHEAST	11	0	0	1	9	3	27	1	9	2	18	2	18	1	9
NORTH CENTRAL	9	0	0	1	11	2	22	1	11	3	33	1	11	1	11
SOUTH	12	0	0	0	0	4	33	2	17	3	25	0	0	1	8
WEST	14	0	0	0	0	0	0	2	14	1	7	10	71	1	7
METRO STATUS															
METRO	32	0	0	1	3	7	22	3	9	7	22	7	22	4	13
NON METRO	14	0	0	1	7	2	14	3	21	2	14	6	43	0	0
FORM OF GOVERNMENT															
WITHOUT ADMINISTRATOR	16	0	0	0	0	7	44	3	19	2	13	2	13	1	6
WITH ADMINISTRATOR	21	0	0	1	5	2	10	3	14	4	19	10	48	1	5
UNKNOWN	9	0	0	1	11	0	0	0	0	3	33	1	11	2	22

TABLE 13

CITY ENVIRONMENTAL DEPARTMENT

	Number Reporting	HAS ENVIRONMENTAL DEPARTMENT						Does Not Have Dept.	
		Separate		Part of Another Agcy.		Total			
		No.	%	No.	%	No.	%	No.	%
Total, All Cities	1090	80	7	173	16	253	23	837	77
Population Group									
Over 500,000	10	3	30	3	30	6	60	4	40
250,000-500,000	18	3	17	10	56	13	72	5	28
100,000-250,000	57	3	5	20	35	23	40	34	60
50,000-100,000	142	15	11	29	20	44	31	98	69
25,000- 50,000	280	20	7	47	17	67	24	213	76
10,000- 25,000	583	36	6	64	11	100	17	483	83
Geographic Region									
Northeast	245	28	11	30	12	58	24	187	76
North Central	318	29	9	46	14	75	24	243	76
South	266	10	4	32	12	42	16	224	84
West	261	13	5	65	25	78	30	183	70
Metro Status									
Central	191	19	10	45	24	64	34	127	66
Suburban	580	48	8	97	17	145	25	435	75
Independent	319	13	4	31	10	44	14	275	86
Form of Government									
Mayor-Council	269	31	12	40	15	71	26	198	74
Council-Manager	755	46	6	122	16	168	22	587	78
Other	66	3	5	11	17	14	21	52	79

TABLE 14.

CITY STAFF ENVIRONMENTAL COMMITTEE

	NO. OF REPORTING (A)	HAS STAFF COMMITTEE		DOES NOT HAVE STAFF COMMITTEE	
		NO.	% A	NO.	% A
TOTAL, ALL CITIES	1086	221	20	865	80
POPULATION GROUP					
OVER 500,000	10	4	40	6	60
250,000-500,000	17	7	41	10	59
100,000-250,000	57	16	28	41	72
50,000-100,000	141	37	26	104	74
25,000- 50,000	278	53	19	225	81
10,000- 25,000	583	104	18	479	82
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	244	55	23	189	77
NORTH CENTRAL	318	59	19	259	81
SOUTH	264	27	10	237	90
WEST	260	80	31	180	69
METRO/CITY TYPE					
CENTRAL	189	43	23	146	77
SUBURBAN	579	137	24	442	76
INDEPENDENT	318	41	13	277	87
FORM OF GOVERNMENT					
MAYOR-COUNCIL	269	64	24	205	76
COUNCIL-MANAGER	753	137	18	616	82
COMMISSION	32	6	19	26	81
TOWN MEETING	24	9	38	15	63
REP. TOWN MEETING	8	5	63	3	38

TABLE 15.

DESIGNATED CITY ENVIRONMENTAL OFFICIAL

	NO. OF REPORTING (A)	OFFICIAL HAS BEEN DESIGNATED NO.B	% A	OFFICIAL HAS NOT BEEN DESIGNATED NO.	% A
TOTAL, ALL CITIES	1042	414	40	628	60
POPULATION GROUP					
OVER 500,000	9	6	67	3	33
250,000-500,000	17	12	71	5	29
100,000-250,000	57	23	40	34	60
50,000-100,000	139	67	48	72	52
25,000- 50,000	266	100	38	166	62
10,000- 25,000	554	206	37	348	63
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	232	80	34	152	66
NORTH CENTRAL	302	122	40	180	60
SOUTH	255	78	31	177	69
WEST	253	134	53	119	47
METRO/CITY TYPE					
CENTRAL	187	80	43	107	57
SUBURBAN	550	227	41	323	59
INDEPENDENT	305	107	35	198	65
FORM OF GOVERNMENT					
MAYOR-COUNCIL	248	106	43	142	57
COUNCIL-MANAGER	734	292	40	442	60
COMMISSION	31	7	23	24	77
TOWN MEETING	22	6	27	16	73
REP. TOWN MEETING	7	3	43	4	57

TABLE 16

PRIMARY FUNCTIONS OF SEPARATE CITY ENVIRONMENTAL DEPARTMENT

	HAS SEPRTE ENVIR DEPT (A)	RESEARCH		PLANNING		INSPEC & MONITORNG		ENFORCE-MENT		ENVIR IMP ASSESS		PROGRAM DEVELOP		ADVISRY FNCTNS		INTERDEPRT COORDIN		OTHER	
		#	%																
TOTAL, ALL CITIES	80	41	51	47	59	49	61	33	41	35	44	49	61	59	74	29	36	7	9
POPULATION GROUP																			
OVER 500,000	3	2	67	2	67	2	67	2	67	3	100	2	67	3	100	3	100	0	0
250,000-500,000	3	2	67	2	67	2	67	2	67	1	33	2	67	3	100	1	33	1	33
100,000-249,999	3	2	67	2	67	2	67	2	67	1	33	1	33	2	67	1	33	1	33
50,000- 99,999	15	8	53	7	47	10	67	8	53	7	47	9	60	10	67	8	53	1	7
25,000- 49,999	20	7	35	13	65	13	65	9	45	11	55	14	70	13	65	7	35	2	10
10,000- 24,999	36	20	56	21	58	20	56	10	28	12	33	21	58	28	78	9	25	2	6
5,000- 9,999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 4,999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	28	15	54	18	64	15	54	6	21	15	54	18	64	25	89	9	32	2	7
NORTH CENTRAL	29	12	41	16	55	21	72	17	59	11	38	17	59	18	62	9	31	3	10
SOUTH	10	5	50	5	50	7	70	4	40	3	30	5	50	6	60	4	40	1	10
WEST	13	9	69	8	62	6	46	6	46	6	46	9	69	10	77	7	54	1	8
METRO/CITY TYPE																			
CENTRAL	19	13	68	12	63	13	68	10	53	13	68	11	58	14	74	10	53	2	11
SUBURBAN	48	23	48	28	58	27	56	17	35	21	44	33	69	39	81	15	31	4	8
INDEPENDENT	13	5	38	7	54	9	69	6	46	1	8	5	38	6	46	4	31	1	8
FORM OF GOVERNMENT																			
MAYOR-COUNCIL	31	15	48	21	68	14	45	7	23	14	45	18	58	27	87	8	26	2	6
COUNCIL-MANAGER	46	24	52	23	50	32	70	24	52	19	41	29	63	29	63	20	43	5	11
COMMISSION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOWN MEETING	2	2	100	2	100	2	100	1	50	2	100	1	50	2	100	0	0	0	0
REP. TOWN MEETING	1	0	0	1	100	1	100	1	100	0	0	1	100	1	100	1	100	0	0

TABLE 17

PRIMARY FUNCTIONS OF CITY ENVIRONMENTAL SECTION PART OF ANOTHER AGENCY

	ENVIR PART OF AN AGENCY	RESEARCH		PLANNING		INSPEC 3 MONITORNG		ENFORCE-MENT		ENVIR IMP ASSESS		PROGRAM DEVELOP		ADVISRY FNCTNS		INTERDEPRT COORDIN		OTHER	
	(A)	#	%																
TOTAL, ALL CITIES	173	70	40	115	66	111	64	113	65	103	60	97	56	105	61	97	56	11	6
POPULATION GROUP																			
OVER 500,000	3	2	67	2	67	3	100	3	100	1	33	2	67	1	33	2	67	0	0
250,000-500,000	10	5	50	5	50	5	50	5	50	3	30	7	70	7	70	8	80	2	20
100,000-249,999	20	11	55	13	65	12	60	12	60	17	85	12	60	13	65	11	55	3	15
50,000- 99,999	29	10	34	22	76	23	79	21	72	20	69	20	69	17	59	21	72	1	3
25,000- 49,999	47	22	47	32	68	29	62	32	68	28	60	29	62	31	66	25	53	1	2
10,000- 24,999	64	20	31	41	64	39	61	40	63	34	53	27	42	36	56	30	47	4	6
5,000- 9,999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 4,999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	30	8	27	17	57	19	63	19	63	14	47	18	60	19	63	18	60	1	3
NORTH CENTRAL	46	15	33	27	59	31	67	33	72	22	48	27	59	29	63	20	43	4	9
SOUTH	32	14	44	17	53	23	72	20	63	14	44	19	59	19	59	16	50	2	5
WEST	65	33	51	54	83	38	58	41	63	53	82	33	51	38	58	43	66	4	6
METRO/CITY TYPE																			
CENTRAL	45	23	51	27	60	30	67	30	67	26	58	33	73	28	62	29	64	6	13
SUBURBAN	97	37	38	71	73	61	63	61	63	62	64	49	51	57	59	57	59	3	3
INDEPENDENT	31	10	32	17	55	20	65	22	71	15	48	15	48	20	65	11	35	2	6
FORM OF GOVERNMENT																			
MAYOR-COUNCIL	40	18	45	28	70	23	58	26	65	23	58	28	70	26	65	26	65	3	8
COUNCIL-MANAGER	122	48	39	81	66	81	66	80	66	74	61	62	51	71	58	65	53	8	7
COMMISSION	6	1	17	3	50	4	67	4	67	2	33	4	67	4	67	3	50	0	0
TOWN MEETING	2	1	50	1	50	1	50	1	50	1	50	1	50	2	100	1	50	0	0
REP. TOWN MEETING	3	2	67	2	67	2	67	2	67	3	100	2	67	2	67	2	67	0	0

TABLE 18

YEAR CITY ENVIRONMENTAL DEPARTMENT ESTABLISHED

	HAS ENVIRONMENTAL DEPARTMENT (B)	PRIOR TO 1950		IN 1951 TO 1964		IN 1965 TO 1969		DURING 1970		DURING 1971		DURING 1972		DURING 1973	
		NO.	% B			NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	238	9	4	21	9	34	14	25	11	42	18	62	26	12	5
POPULATION GROUP															
OVER 500,000	6	2	33	0	0	2	33	0	0	1	17	0	0	0	0
250,000-500,000	13	0	0	2	15	3	23	0	0	2	15	4	31	0	0
100,000-250,000	23	3	13	1	4	2	9	3	13	5	22	3	13	2	9
50,000-100,000	40	1	3	3	8	6	15	6	15	5	13	10	25	2	5
25,000- 50,000	64	1	2	6	9	10	16	6	9	10	16	21	33	1	2
10,000- 25,000	52	2	2	9	10	11	12	10	11	19	21	24	26	7	8
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION															
NORTHEAST	52	1	2	7	13	10	19	6	12	8	15	11	21	3	6
NORTH CENTRAL	73	5	7	5	7	11	15	10	14	18	25	14	19	0	0
SOUTH	37	2	5	4	11	5	14	1	3	9	24	5	14	1	3
WEST	76	1	1	5	7	8	11	8	11	7	9	32	42	8	11
METRO/CITY TYPE															
CENTRAL	65	6	9	6	9	11	17	7	11	10	15	9	14	1	2
SUBURBAN	131	0	0	14	11	20	15	16	12	22	17	40	31	9	7
INDEPENDENT	42	3	7	1	2	3	7	2	5	10	24	13	31	2	5
FORM OF GOVERNMENT															
MAYOR-COUNCIL	67	4	6	3	4	9	13	11	16	11	16	15	22	1	1
COUNCIL-MANAGER	159	4	3	16	10	23	14	14	9	31	19	43	27	9	6
COMMISSION	5	1	20	0	0	2	40	0	0	0	0	1	20	0	0
TOWN MEETING	3	0	0	1	33	0	0	0	0	0	0	1	33	1	33
REP. TOWN MEETING	4	0	0	1	25	0	0	0	0	0	0	2	50	1	25

TABLE 19.

TITLE OF A DESIGNATED CITY ENVIRONMENTAL OFFICIAL

	OFFICIAL HAS BEEN DESIGNATED	CHIEF EXECUTIVE		STAFF MEMB IN CHIEF EXEC OFFCE		HEAD OF ENVIRONMNT DEPT.		HEAD OF ANOTHER DEPT.		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	414	104	25	39	9	49	12	140	34	42	10
POPULATION GROUP											
OVER 500,000	6	0	0	0	0	3	50	2	33	1	17
250,000-500,000	12	0	0	2	17	4	33	5	42	1	8
100,000-250,000	23	2	9	2	9	8	35	8	35	1	4
50,000-100,000	67	6	9	8	12	11	16	30	45	6	9
25,000- 50,000	100	14	14	13	13	15	15	34	34	15	15
10,000- 25,000	206	82	40	14	7	8	4	61	30	18	9
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	80	25	31	3	4	8	10	24	30	9	11
NORTH CENTRAL	122	31	25	10	8	20	16	37	30	15	12
SOUTH	78	26	33	8	10	7	9	24	31	8	10
WEST	134	22	16	18	13	14	10	55	41	10	7
METRO/CITY TYPE											
CENTRAL	80	8	10	5	6	19	24	33	41	7	9
SUBURBAN	227	50	22	24	11	21	9	83	37	27	12
INDEPENDENT	107	46	43	10	9	9	8	24	22	8	7
FORM OF GOVERNMENT											
MAYOR-COUNCIL	106	24	23	8	8	10	9	41	39	12	11
COUNCIL-MANAGER	292	79	27	31	11	36	12	92	32	27	9
COMMISSION	7	0	0	0	0	1	14	3	43	3	43
TOWN MEETING	6	1	17	0	0	0	0	3	50	0	0
REP. TOWN MEETING	3	0	0	0	0	2	67	1	33	0	0

TABLE 20

PRIMARY ENVIRONMENTAL FUNCTIONS OF DESIGNATED OFFICIAL

	Number Reporting	Provide Advice		Develop Programs		Supervise Activities		Have Operational Responsibility	
	(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Chief Executive	106	70	66	55	52	59	56	44	42
Mayor-Council	26	15	58	12	46	15	58	8	31
Council-Manager	79	55	70	43	54	43	54	36	46
Staff Member in Chief Executive Office	41	31	76	20	49	19	46	22	54
Mayor-Council	9	6	67	4	44	3	33	3	33
Council-Manager	32	25	78	16	50	16	50	19	59
Head of Environment Department	50	38	76	38	76	40	80	41	82
Mayor-Council	10	9	90	8	80	8	80	8	80
Council-Manager	36	25	69	26	72	28	78	29	81
Head of Another Department	145	99	68	63	43	80	55	74	51
Mayor-Council	44	31	70	20	45	27	61	25	57
Council-Manager	93	62	67	37	40	47	51	42	45
Total (incl. other)	414	283	68	202	49	227	55	212	51
Mayor-Council	106	69	65	50	47	59	56	49	46
Council-Manager	292	204	70	143	49	156	53	151	52

TABLE 21

COUNTY ENVIRONMENTAL DEPARTMENT

	Number Reporting (A)	HAS ENVIRONMENTAL DEPARTMENT						Does Not Have Envir. Department	
		Separate		Part of Another Agency		Total			
		No.	%	No.	%	No.	%	No.	%
Total, All Counties	169	30	18	59	35	93	55	76	45
Population Group									
Over 500,000	25	7	28	10	40	17	68	8	32
250,000-500,000	27	1	4	12	44	14	52	13	48
100,000-250,000	54	13	24	18	33	32	59	22	41
50,000-100,000	63	9	14	19	30	30	48	33	52
Geographic Region									
Northeast	39	8	21	14	36	23	59	16	41
North Central	45	6	13	18	40	25	56	20	44
South	52	11	21	15	29	26	50	26	50
West	33	5	15	12	36	19	58	14	42
Metro Status									
Metro	115	20	17	42	37	63	55	52	45
Non Metro	54	10	19	17	31	30	56	24	44
Form of Government									
Without Administrator	54	9	17	14	26	24	44	30	56
With Administrator	67	10	15	27	40	39	58	28	42
Unknown	48	11	23	18	38	30	63	18	38

TABLE 22.

COUNTY STAFF ENVIRONMENTAL COMMITTEE

	NO. OF REPORTING (A)	HAS STAFF COMMITTEE NO.	HAS STAFF COMMITTEE % A	DOES NOT HAVE STAFF COMMITTEE NO.	DOES NOT HAVE STAFF COMMITTEE % A
TOTAL, ALL COUNTIES	168	70	42	98	58
POPULATION GROUP					
OVER 500,000	25	14	56	11	44
250,000-500,000	27	12	44	15	56
100,000-250,000	55	27	49	28	51
50,000-100,000	61	17	28	44	72
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	39	17	44	22	56
NORTH CENTRAL	45	21	47	24	53
SOUTH	51	13	25	38	75
WEST	33	19	58	14	42
METRO STATUS					
METRO	114	49	43	65	57
NON METRO	54	21	39	33	61
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	53	19	36	34	64
WITH ADMINISTRATOR	66	34	52	32	48
UNKNOWN	49	17	35	32	65

DESIGNATED COUNTY ENVIRONMENTAL OFFICIAL

	NO. OF REPORTING (A)	OFFICIAL HAS BEEN DESIGNATED NO. B	% A	OFFICIAL HAS NOT BEEN DESIGNATED NO.	% A
TOTAL, ALL COUNTIES	163	78	48	85	52
POPULATION GROUP					
OVER 500,000	22	16	73	6	27
250,000-500,000	27	12	44	15	56
100,000-250,000	51	26	51	25	49
50,000-100,000	63	24	38	39	62
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	38	18	47	20	53
NORTH CENTRAL	43	17	40	26	60
SOUTH	52	25	48	27	52
WEST	30	18	60	12	40
METRO STATUS					
METRO	110	53	48	57	52
NON METRO	53	25	47	28	53
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	51	15	29	36	71
WITH ADMINISTRATOR	64	41	64	23	36
UNKNOWN	48	22	46	26	54

TABLE 24

PRIMARY FUNCTIONS OF COUNTY ENVIRONMENTAL DEPARTMENT

	NO. OF REPORTING (A)	RESEARCH		PLANNING		INSPECTION MONITORING		ENFORCE-MENT		ENVIRON-MENTAL IM-PACT ASSMT		PROGRAM DEVELOPMNT		ADVISORY FUNCTIONS		INTERDE-PARTMENTAL COORDNATN		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	93	49	53	67	72	67	72	59	63	54	58	66	71	76	82	53	57	9	10
POPULATION GROUP																			
OVER 500,000	17	14	82	15	88	13	76	12	71	13	76	14	82	15	88	11	65	3	18
250,000-500,000	14	6	43	9	64	11	79	10	71	9	64	7	50	12	86	8	57	2	14
100,000-250,000	32	15	47	21	66	25	78	22	69	19	59	26	81	28	88	22	69	3	9
50,000-100,000	30	14	47	22	73	18	60	15	50	13	43	19	63	21	70	12	40	1	3
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	23	10	43	19	83	12	52	9	39	12	52	18	78	19	83	12	52	3	13
NORTH CENTRAL	25	11	44	19	76	18	72	15	60	9	36	17	68	17	68	11	44	2	8
SOUTH	26	14	54	16	62	24	92	22	85	16	62	18	69	23	88	14	54	1	4
WEST	19	14	74	13	68	13	68	13	68	17	89	13	68	17	89	16	84	3	16
METRO STATUS																			
METRO	63	33	52	44	70	47	75	42	67	39	62	45	71	54	86	38	60	7	11
NON METRO	30	16	53	23	77	20	67	17	57	15	50	21	70	22	73	15	50	2	7
FORM OF GOVERNMENT																			
WITHOUT ADMINISTRATOR	24	10	42	16	67	17	71	14	58	14	58	13	54	18	75	11	46	3	13
WITH ADMINISTRATOR	39	24	62	28	72	31	79	29	74	28	72	31	79	34	87	28	72	4	10
UNKNOWN	30	15	50	23	77	19	63	16	53	12	40	22	73	24	80	14	47	2	7

TABLE 25.

TITLE OF DESIGNATED COUNTY ENVIRONMENTAL OFFICIAL

	OFFICIAL HAS BEEN DESIGNATED	CHIEF EXECUTIVE		STAFF MEMB IN CHIEF EXEC OFFCE		HEAD OF ENVIRONMNT DEPT.		HEAD OF ANOTHER DEPT.		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	78	7	9	7	9	19	24	30	38	9	12
POPULATION GROUP											
OVER 500,000	16	2	13	3	19	5	31	3	19	1	6
250,000-500,000	12	0	0	1	8	3	25	5	42	3	25
100,000-250,000	26	1	4	1	4	8	31	10	38	3	12
50,000-100,000	24	4	17	2	8	3	13	12	50	2	8
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	18	1	6	1	6	3	17	9	50	2	11
NORTH CENTRAL	17	1	6	1	6	6	35	5	29	3	18
SOUTH	25	3	12	2	8	6	24	10	40	3	12
WEST	18	2	11	3	17	4	22	6	33	1	6
METRO STATUS											
METRO	53	3	6	4	8	14	26	20	38	8	15
NON METRO	25	4	16	3	12	5	20	10	40	1	4
FORM OF GOVERNMENT											
WITHOUT ADMINISTRATOR	15	3	20	2	13	3	20	5	33	1	7
WITH ADMINISTRATOR	41	2	5	4	10	13	32	11	27	8	20
UNKNOWN	22	2	9	1	5	3	14	14	64	0	0

TABLE 26.

PRIMARY ENVIRONMENTAL FUNCTIONS OF DESIGNATED COUNTY OFFICIALS

	OFFICIAL HAS BEEN DESIGNATED	PROVIDE ADVICE ON POLICY		DEVELOP ENVIRONMNT PROGRAMS		SUPERVISE ENVIRONMNT ACTIVITIES		OPERATIONL RESPONSBLT ENVIR PROG		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	78	60	77	50	64	55	71	50	64	9	12
POPULATION GROUP											
OVER 500,000	16	13	81	12	75	12	75	11	69	3	19
250,000-500,000	12	9	75	8	67	9	75	7	58	1	8
100,000-250,000	26	20	77	17	65	15	58	15	58	3	12
50,000-100,000	24	18	75	13	54	19	79	17	71	2	8
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	18	15	83	11	61	12	67	6	33	3	17
NORTH CENTRAL	17	12	71	12	71	13	76	15	88	0	0
SOUTH	25	18	72	16	64	20	80	18	72	1	4
WEST	18	15	83	11	61	10	56	11	61	5	28
METRO STATUS											
METRO	53	40	75	36	68	38	72	34	64	6	11
NON METRO	25	20	80	14	56	17	68	16	64	3	12
FORM OF GOVERNMENT											
WITHOUT ADMINISTRATOR	15	12	80	10	67	12	80	9	60	1	7
WITH ADMINISTRATOR	41	32	78	27	66	29	71	30	73	7	17
UNKNOWN	22	16	73	13	59	14	64	11	50	1	5

TABLE 27.

EXPANSION OF PRE-EXISTING CITY CITIZEN BOARDS OR COMMISSIONS

	NO. OF REPORTING (A)	HAV EXPANDED CITIZN BOARDS NO.B	% A	HAVE NOT EXPANDED CITIZEN BDS NO.	% A
TOTAL, ALL CITIES	1083	547	51	536	49
POPULATION GROUP					
OVER 500,000	10	1	10	9	90
250,000-500,000	18	11	61	7	39
100,000-250,000	60	31	52	29	48
50,000-100,000	139	76	55	63	45
25,000- 50,000	276	128	46	148	54
10,000- 25,000	580	300	52	280	48
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	244	139	57	105	43
NORTH CENTRAL	311	148	48	163	52
SOUTH	272	98	36	174	64
WEST	256	162	63	94	37
METRO/CITY TYPE					
CENTRAL	193	87	45	106	55
SUBURBAN	572	315	55	257	45
INDEPENDENT	318	145	46	173	54
FORM OF GOVERNMENT					
MAYOR-COUNCIL	271	151	56	120	44
COUNCIL-MANAGER	747	360	48	387	52
COMMISSION	33	16	48	17	52
TOWN MEETING	24	14	58	10	42
REP. TOWN MEETING	8	6	75	2	25

TABLE 28.

CREATION OF CITY CITIZEN ENVIRONMENTAL BOARD

	NO. OF REPORTING (A)	HAVE CREATED CITIZN ENVIR BD		HAVE NOT CREATED CITIZN BD	
		NO. B	% A	NO.	% A
TOTAL, ALL CITIES	1080	258	24	822	76
POPULATION GROUP					
OVER 500,000	10	5	50	5	50
250,000-500,000	18	9	50	9	50
100,000-250,000	58	18	31	40	69
50,000-100,000	140	46	33	94	67
25,000- 50,000	273	68	25	205	75
10,000- 25,000	581	112	19	469	81
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	245	95	39	150	61
NORTH CENTRAL	311	75	24	236	76
SOUTH	267	39	15	228	85
WEST	257	49	19	208	81
METRO/CITY TYPE					
CENTRAL	189	57	30	132	70
SUBURBAN	572	157	27	415	73
INDEPENDENT	319	44	14	275	86
FORM OF GOVERNMENT					
MAYOR-COUNCIL	268	80	30	188	70
COUNCIL-MANAGER	745	159	21	586	79
COMMISSION	34	6	18	28	82
TOWN MEETING	25	10	40	15	60
REP. TOWN MEETING	8	3	38	5	63

TABLE 29.

COMMISSIONS EXPANDED BY CITY TO INCLUDE ENVIRONMENT

	HAVE EXPANDED CITIZEN BOARDS	PARK AND RECREATION		PLANNING		HISTORIC PRESERVATN		COMMUNITY DEVELOPMNT		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	547	260	48	434	79	97	18	162	30	134	24
POPULATION GROUP											
OVER 500,000	1	1	100	1	100	1	100	0	0	0	0
250,000-500,000	11	2	18	8	73	1	9	2	18	2	18
100,000-250,000	31	14	45	25	81	11	35	10	32	8	26
50,000-100,000	76	38	50	63	83	15	20	20	26	20	26
25,000- 50,000	128	59	46	104	81	23	18	41	32	35	27
10,000- 25,000	300	146	49	233	78	46	15	89	30	69	23
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	139	62	45	106	76	34	24	43	31	48	35
NORTH CENTRAL	148	81	55	109	74	24	16	54	36	38	26
SOUTH	98	53	54	76	78	24	24	39	40	23	23
WEST	162	64	40	143	88	15	9	26	16	25	15
METRO/CITY TYPE											
CENTRAL	87	39	45	74	85	23	26	28	32	20	23
SUBURBAN	315	154	49	249	79	50	16	81	26	86	27
INDEPENDENT	145	67	46	111	77	24	17	53	37	28	19
FORM OF GOVERNMENT											
MAYOR-COUNCIL	151	79	52	115	76	40	26	63	42	40	26
COUNCIL-MANAGER	360	162	45	292	81	48	13	86	24	83	23
COMMISSION	16	11	69	12	75	3	19	5	31	3	19
TOWN MEETING	14	5	36	9	64	5	36	7	50	5	36
REP. TOWN MEETING	6	3	50	6	100	1	17	1	17	3	50

TABLE 30

PRIMARY FUNCTIONS OF CITY CITIZENS COMMISSION

	NO. OF REPORTING (A)	INVESTIGTE ENVIRONMNT PROBLEMS		ORGANIZE COMMUNITY PROGRAMS		EDUCATE THE PUBLIC		ADVISE THE GOVERNING BODY		ENFORCE ENVIR QUAL STANDARDS		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	258	186	72	109	42	144	56	225	87	36	14	21	8
POPULATION GROUP													
OVER 500,000	5	4	80	1	20	2	40	2	40	2	40	1	20
250,000-500,000	9	7	78	2	22	2	22	9	100	1	11	0	0
100,000-250,000	18	10	56	4	22	10	56	14	78	4	22	3	17
50,000-100,000	46	33	72	21	46	26	57	42	91	4	9	4	9
25,000- 50,000	68	55	81	31	46	45	66	60	88	6	9	6	9
10,000- 25,000	112	77	69	50	45	59	53	98	88	19	17	7	6
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	95	70	74	48	51	63	66	81	85	15	16	8	8
NORTH CENTRAL	75	55	73	32	43	43	57	67	89	10	13	5	7
SOUTH	39	27	69	15	38	19	49	36	92	6	15	2	5
WEST	49	34	69	14	29	19	39	41	84	5	10	6	12
METRO/CITY TYPE													
CENTRAL	57	38	67	16	28	28	49	48	84	10	18	7	12
SUBURBAN	157	114	73	71	45	91	58	137	87	17	11	12	8
INDEPENDENT	44	34	77	22	50	25	57	40	91	9	20	2	5
FORM OF GOVERNMENT													
MAYOR-COUNCIL	80	54	68	40	50	52	65	68	85	16	20	4	5
COUNCIL-MANAGER	159	120	75	59	37	82	52	140	88	17	11	16	10
COMMISSION	6	2	33	2	33	3	50	5	83	0	0	0	0
TOWN MEETING	10	8	80	6	60	5	50	9	90	3	30	0	0
REP. TOWN MEETING	3	2	67	2	67	2	67	3	100	0	0	1	33

TABLE 31.

SPECIALIZED CITY CITIZEN ENVIRONMENTAL COMMISSIONS

	NO. OF REPORTING (A)	CITIZEN BD IS SPECIALIZED NO. B	% A	CITIZEN BD NOT SPECIALIZED NO.	% A
TOTAL, ALL CITIES	258	54	21	188	73
POPULATION GROUP					
OVER 500,000	5	3	60	2	40
250,000-500,000	9	3	33	5	56
100,000-250,000	18	9	50	8	44
50,000-100,000	46	4	9	38	83
25,000- 50,000	68	17	25	49	72
10,000- 25,000	112	18	16	86	77
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	95	17	18	69	73
NORTH CENTRAL	75	19	25	53	71
SOUTH	39	8	21	29	74
WEST	49	10	20	37	76
METRO/CITY TYPE					
CENTRAL	57	19	33	33	58
SUBURBAN	157	19	12	127	81
INDEPENDENT	44	16	36	28	64
FORM OF GOVERNMENT					
MAYOR-COUNCIL	80	20	25	57	71
COUNCIL-MANAGER	159	28	18	121	76
COMMISSION	6	1	17	5	83
TOWN MEETING	10	4	40	3	30
REP. TOWN MEETING	3	1	33	2	67

TABLE 32.

TYPE OF SPECIALIZED CITY CITIZEN ENVIRONMENTAL COMMISSION

	CITIZEN BD IS SPEC-IALIZED	AIR		WATER		SOLID WASTE		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	66	40	61	25	38	28	42	25	38
POPULATION GROUP									
OVER 500,000	3	3	100	0	0	0	0	2	67
250,000-500,000	3	2	67	0	0	2	67	1	33
100,000-250,000	13	8	62	1	8	1	8	3	23
50,000-100,000	5	4	80	3	60	4	80	1	20
25,000- 50,000	20	12	60	11	55	12	60	7	35
10,000- 25,000	22	11	50	10	45	9	41	11	50
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	20	12	60	8	40	7	35	7	35
NORTH CENTRAL	24	15	63	11	46	11	46	10	42
SOUTH	9	7	78	2	22	2	22	3	33
WEST	13	6	46	4	31	8	62	5	38
METRO/CITY TYPE									
CENTRAL	22	16	73	4	18	5	23	6	27
SUBURBAN	24	13	54	10	42	11	46	6	25
INDEPENDENT	20	11	55	11	55	12	60	13	65
FORM OF GOVERNMENT									
MAYOR-COUNCIL	23	17	74	10	43	12	52	9	39
COUNCIL-MANAGER	34	20	59	11	32	13	38	13	38
COMMISSION	3	2	67	1	33	1	33	0	0
TOWN MEETING	5	1	20	3	60	1	20	3	60
REP. TOWN MEETING	1	0	0	0	0	1	100	0	0

TABLE 33.

EXPANSION OF PRE-EXISTING COUNTY CITIZEN BOARDS OR COMMISSIONS

	NO. OF REPORTING (A)	HAV EXPANDED CITIZN BOARDS NO.B	% A	HAVE NOT EXPANDED CITIZEN BCS NO.	% A
TOTAL, ALL COUNTIES	167	85	51	82	49
POPULATION GROUP					
OVER 500,000	24	12	50	12	50
250,000-500,000	27	12	44	15	56
100,000-250,000	55	31	56	24	44
50,000-100,000	61	30	49	31	51
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	40	16	40	24	60
NORTH CENTRAL	45	25	56	20	44
SOUTH	50	25	50	25	50
WEST	32	19	59	13	41
METRO STATUS					
METRO	114	58	51	56	49
NON METRO	53	27	51	26	49
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	53	29	55	24	45
WITH ADMINISTRATOR	66	29	44	37	56
UNKNOWN	48	27	56	21	44

TABLE 34.

CREATION OF COUNTY CITIZEN ENVIRONMENTAL BOARD

	NO. OF REPORTING (A)	HAVE CRE- ATED CITZN ENVIR BD		HAVE NOT CREATED CITZN BD	
		NO. B	% A	NO.	% A
TOTAL, ALL COUNTIES	165	59	36	106	64
POPULATION GROUP					
OVER 500,000	23	9	39	14	61
250,000-500,000	27	11	41	16	59
100,000-250,000	54	22	41	32	59
50,000-100,000	61	17	28	44	72
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	39	14	36	25	64
NORTH CENTRAL	42	15	36	27	64
SOUTH	52	16	31	36	69
WEST	32	14	44	18	56
METRO STATUS					
METRO	113	40	35	73	65
NON METRO	52	19	37	33	63
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	51	16	31	35	69
WITH ADMINISTRATOR	64	26	41	38	59
UNKNOWN	50	17	34	33	66

TABLE 35

COMMISSIONS EXPANDED BY COUNTY TO INCLUDE ENVIRONMENT

	HAVE EXPANDED CITIZEN BOARDS	PARK AND RECREATION		PLANNING		HISTORIC PRESERVATN		COMMUNITY DEVELOPMNT		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	85	36	42	72	85	19	22	22	26	21	25
POPULATION GROUP											
OVER 500,000	12	6	50	10	83	2	17	2	17	4	33
250,000-500,000	12	3	25	10	83	2	17	2	17	2	17
100,000-250,000	31	12	39	27	87	9	29	9	29	11	35
50,000-100,000	30	15	50	25	83	6	20	9	30	4	13
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	16	4	25	15	94	2	13	2	13	4	25
NORTH CENTRAL	25	14	56	20	80	8	32	7	28	6	24
SOUTH	25	9	36	19	76	8	32	9	36	7	28
WEST	19	9	47	18	95	1	5	4	21	4	21
METRO STATUS											
METRO	58	24	41	50	86	15	26	14	24	16	28
NON METRO	27	12	44	22	81	4	15	8	30	5	19
FORM OF GOVERNMENT											
WITHOUT ADMINISTRATOR	29	11	38	24	83	8	28	8	28	6	21
WITH ADMINISTRATOR	29	12	41	23	79	4	14	6	21	9	31
UNKNOWN	27	13	48	25	93	7	26	8	30	6	22

TABLE 36

PRIMARY FUNCTIONS OF COUNTY CITIZENS COMMISSIONS

	NO. OF REPORTING (A)	INVESTIGTE ENVIRONMNT PROBLEMS		ORGANIZE COMMUNITY PROGRAMS		EDUCATE THE PUBLIC		ADVISE THE GOVERNING BODY		ENFORCE ENVIR QUAL STANDARDS		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	59	36	61	16	27	28	47	50	85	16	27	8	14
POPULATION GROUP													
OVER 500,000	9	6	67	1	11	3	33	6	67	2	22	4	44
250,000-500,000	11	5	45	1	9	3	27	9	82	3	27	0	0
100,000-250,000	22	13	59	6	27	11	50	20	91	4	18	3	14
50,000-100,000	17	12	71	8	47	11	65	15	88	7	41	1	6
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	14	12	86	8	57	11	79	14	100	2	14	2	14
NORTH CENTRAL	15	6	40	2	13	4	27	12	80	1	7	1	7
SOUTH	16	9	56	4	25	6	38	14	88	8	50	0	0
WEST	14	9	64	2	14	7	50	10	71	5	36	5	36
METRO STATUS													
METRO	40	21	53	8	20	16	40	34	85	9	23	6	15
NON METRO	19	15	79	8	42	12	63	16	84	7	37	2	11
FORM OF GOVERNMENT													
WITHOUT ADMINISTRATOR	16	10	63	4	25	8	50	13	81	6	38	1	6
WITH ADMINISTRATOR	26	15	58	4	15	11	42	22	85	4	15	7	27
UNKNOWN	17	11	65	8	47	9	53	15	88	6	35	0	0

TABLE 37.

SPECIALIZED COUNTY CITIZEN ENVIRONMENTAL COMMISSION

	NO. OF REPORTING (A)	CITIZEN BD IS SPECIALIZED NO.B	% A	CITIZEN BD NOT SPECIALIZED NO.	% A
TOTAL, ALL COUNTIES	59	29	49	27	46
POPULATION GROUP					
OVER 500,000	9	4	44	5	56
250,000-500,000	11	8	73	3	27
100,000-250,000	22	7	32	12	55
50,000-100,000	17	10	59	7	41
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	14	2	14	11	79
NORTH CENTRAL	15	11	73	4	27
SOUTH	16	9	56	5	31
WEST	14	7	50	7	50
METRO STATUS					
METRO	40	21	53	17	43
NON METRO	19	8	42	10	53
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	16	8	50	6	38
WITH ADMINISTRATOR	26	14	54	12	46
UNKNOWN	17	7	41	9	53

TABLE 38.

TYPE OF SPECIALIZED COUNTY CITIZEN ENVIRONMENTAL COMMISSIONS

	CITIZEN BD IS SPECIALIZED	AIR		WATER		SOLID WASTE		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	35	21	60	14	40	19	54	6	17
POPULATION GROUP									
OVER 500,000	4	3	75	2	50	1	25	1	25
250,000-500,000	8	5	63	4	50	4	50	2	25
100,000-250,000	11	6	55	4	36	5	45	1	9
50,000-100,000	12	7	58	4	33	9	75	2	17
25,000- 50,000	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	3	2	67	2	67	2	67	2	67
NORTH CENTRAL	12	4	33	5	42	7	58	2	17
SOUTH	11	8	73	5	45	6	55	1	9
WEST	9	7	78	2	22	4	44	1	11
METRO STATUS									
METRO	25	14	56	10	40	12	48	4	16
NON METRO	10	7	70	4	40	7	70	2	20
FORM OF GOVERNMENT									
WITHOUT ADMINISTRATOR	10	7	70	6	60	4	40	2	20
WITH ADMINISTRATOR	16	11	69	6	38	9	56	3	19
UNKNOWN	9	3	33	2	22	6	67	1	11

TABLE 39

CITY ENACTED LAND USE CONTROLS

	No. of Respondents (A)	Architectural Appearance		Flood Plain Zoning		Growth Limitation		Historical Preservation		Marshland Controls		Open Space Zoning		Instaltn of Public Facilities		Dedic of Land For Pub Purpos		Zng to Protect Natrl Resources	
		No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)
Total, All Cities	1115	297	27	507	45	258	23	262	23	132	12	531	48	921	83	519	47	390	35
Population Group																			
Over 500,000	10	3	30	5	50	2	20	8	80	2	20	6	60	8	80	4	40	2	20
250,000-500,000	18	4	22	12	67	1	6	9	50	4	22	7	38	14	78	8	44	1	6
100,000-250,000	61	15	25	33	54	14	23	30	49	11	18	23	38	51	83	33	54	17	28
50,000-100,000	142	43	30	61	43	38	27	37	27	16	11	70	49	127	89	75	53	51	36
25,000- 50,000	282	71	25	131	46	66	23	62	22	30	11	142	50	226	80	128	45	99	35
10,000- 25,000	602	161	27	265	44	137	23	116	19	69	11	283	47	495	82	271	45	220	37
Geographic Region																			
Northeast	252	58	23	130	52	74	29	72	29	61	24	119	47	189	75	101	40	91	36
North Central	327	84	26	163	50	56	17	69	21	36	11	163	50	264	81	162	50	112	34
South	274	46	17	121	44	62	23	61	22	17	6	114	42	232	85	99	36	89	32
West	262	109	42	93	35	66	25	60	23	18	7	135	52	236	90	157	60	98	37
Metro/City Type																			
Central	195	41	21	89	46	37	19	75	38	23	12	78	40	169	87	84	43	50	26
Suburban	592	206	35	285	48	170	29	114	19	81	14	302	51	481	81	297	50	220	37
Independent	328	50	15	133	41	51	16	73	22	28	9	151	46	271	83	138	42	120	37
Form of Government																			
Mayor-Council	279	72	26	123	44	65	23	73	26	35	13	141	51	213	76	124	44	99	35
Council-Manager	769	214	28	348	45	180	23	171	22	75	10	360	47	664	86	366	48	266	35
Other	67	11	16	36	54	13	19	18	27	22	33	30	45	44	66	29	43	25	37

TABLE 40

COUNTY-ENACTED LAND USE CONTROLS

	Number of Respondents (A)	Architectural Appearance		Flood Plain Zoning		Growth Limitation		Historical Preservation		Marshland Controls		Open Space Zoning		Instaltn of Public Facilities		Dedic of Land For Pub Purpos		Zng to Protect Natrl Resources	
		No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All COGS	177	19	11	68	38	22	12	43	24	21	12	64	36	91	51	52	29	58	33
Population Group																			
Over 500,000	25	4	16	9	36	5	20	6	24	4	16	10	40	17	68	12	48	11	44
250,000-500,000	27	4	15	13	48	4	15	6	22	2	7	11	41	16	59	10	37	7	26
100,000-250,000	57	6	11	26	46	7	12	19	33	12	21	23	40	30	53	16	68	18	32
50,000-100,000	68	5	7	20	29	6	9	12	18	3	4	20	29	28	41	14	21	22	32
Geographic Region																			
Northeast	40	3	8	8	20	4	10	9	23	7	18	8	20	15	38	8	20	4	10
North Central	49	3	6	24	49	6	12	10	20	5	10	15	31	22	45	16	33	23	47
South	55	6	11	16	29	6	11	15	27	4	7	19	35	25	45	11	20	12	22
West	33	7	21	20	61	6	18	9	27	5	15	22	67	29	88	17	52	19	58
Metro Status																			
Metro	119	15	13	53	45	15	13	31	26	16	13	43	36	64	54	37	31	38	32
Non Metro	58	4	7	15	26	7	12	12	21	5	9	21	36	27	47	15	26	20	35
Form of Government																			
Without Administrator	56	4	7	20	36	4	7	9	16	6	11	14	25	22	39	15	27	11	20
With Administrator	69	10	14	32	46	14	20	21	30	12	17	36	52	43	62	27	39	33	48
Unknown	52	5	10	16	31	4	8	13	25	3	6	14	27	26	50	10	19	14	27

TABLE 41

OTHER CITY-ENACTED CONTROLS

	No. of Respondents (A)	Abandoned Vehicle Ordinance		Tree Preservation Ordinance		Erosion Control Ordinance		Grading (Excavatn) Ordinance		Housing Code		Noise Ordinance		Restrict Nonreturn Bottles		Sanitation (Refuse) Ordinance		Sign Ordinance	
		No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All Cities	1115	933	84	343	31	181	16	479	43	897	80	392	35	15	1	937	84	938	84
Population Group																			
Over 500,000	10	9	90	2	20	2	20	5	50	10	100	4	40	0	0	9	90	8	80
250,000-500,000	18	16	89	7	39	0	0	7	39	18	100	4	22	0	0	17	94	17	94
100,000-250,000	61	55	90	20	33	12	20	29	48	55	90	25	41	0	0	54	89	53	87
50,000-100,000	142	118	83	51	36	29	20	66	46	119	84	56	39	4	3	120	85	124	87
25,000- 50,000	282	235	83	84	30	51	18	132	47	232	82	95	34	4	1	231	82	231	82
10,000- 25,000	602	500	83	179	30	87	14	240	39	463	77	208	35	7	1	506	84	505	84
Geographic Region																			
Northeast	252	191	76	88	35	54	21	115	46	192	76	82	33	2	1	187	74	217	86
North Central	327	281	86	108	33	36	11	132	40	261	80	115	35	5	2	283	87	279	85
South	274	238	87	55	20	37	14	71	26	243	89	96	35	1	0	255	93	217	79
West	262	223	85	92	35	54	21	161	61	201	77	99	38	7	3	212	81	225	86
Metro/City Type																			
Central	195	174	89	63	32	32	16	79	41	187	96	78	40	1	1	171	88	164	84
Suburban	592	489	83	199	34	125	21	312	53	441	74	222	38	11	2	475	80	514	87
Independent	328	270	82	81	25	24	7	88	27	269	82	92	28	3	1	291	89	260	79
Form of Government																			
Mayor-Council	279	229	82	86	31	45	16	119	43	242	87	100	36	3	1	231	83	227	81
Council-Manager	769	657	85	238	31	125	16	332	43	604	79	272	35	12	2	656	85	654	85
Other	67	47	70	19	28	11	16	28	42	51	76	20	30	0	0	50	75	57	85

TABLE 42

OTHER COUNTY-ENACTED CONTROLS

	No. of Respondents (A)	Abandoned Vehicle Ordinance		Tree Preservation Ordinance		Erosion Control Ordinance		Grading (Excavatn) Ordinance		Housing Code		Noise Ordinance		Restrict Nonreturn Bottles		Sanitation (Refuse) Ordinance		Sign Ordinance	
	(A)	No.	% A	No.	% A	No.	% A	No.	% A	No.	% A	No.	% A	No.	% A	No.	% A	No.	% A
Total, All COGS	177	58	27	17	10	41	23	42	24	65	37	14	8	2	1	86	49	55	31
Population Group																			
Over 500,000	25	9	36	6	24	8	32	13	52	11	44	8	32	1	4	15	60	12	48
250,000-500,000	27	8	30	3	11	11	41	7	26	12	44	3	11	0	0	18	67	12	44
100,000-250,000	57	22	39	5	9	14	25	13	23	22	39	3	5	1	2	27	47	15	26
50,000-100,000	68	19	28	3	4	8	12	9	13	20	29	0	0	0	0	26	38	16	24
Geographic Region																			
Northeast	40	7	18	1	3	9	23	4	10	5	13	0	0	0	0	8	20	7	18
North Central	49	12	25	3	6	7	14	5	10	16	33	4	8	0	0	27	55	11	22
South	55	19	35	9	16	13	24	16	29	25	45	6	11	1	2	30	55	15	27
West	33	20	61	4	12	12	36	17	52	19	58	4	12	1	3	21	64	22	67
Metro Status																			
Metro	119	40	34	15	13	33	28	35	29	51	43	14	12	2	2	69	58	43	36
Non Metro	58	18	31	2	3	8	14	7	12	14	24	0	0	0	0	17	29	12	21
Form of Government																			
Without Administrator	56	17	30	2	4	10	18	10	18	13	23	4	7	1	2	20	36	15	27
With Administrator	69	30	43	12	17	23	33	24	35	33	48	9	13	1	1	43	62	31	45
Unknown	52	11	21	3	6	8	15	8	15	19	37	1	2	0	0	23	44	9	17

TABLE 43.

ENVIRONMENTAL SECTION IN CITY MASTER PLAN

	NO. OF REPORTING (A)	MASTER PLAN INCLUDES ENVIR SECTION NO.	% A	MASTER PLAN DOES NOT INCLUDE SEC NO.	% A	UNDER CONSIDERATION NO.	% A
TOTAL, ALL CITIES	962	264	27	401	42	297	31
POPULATION GROUP							
OVER 500,000	8	4	50	3	38	1	13
250,000-500,000	17	5	29	7	41	5	29
100,000-250,000	59	16	27	21	36	22	37
50,000-100,000	124	37	30	41	33	46	37
25,000- 50,000	246	58	24	103	42	85	35
10,000- 25,000	508	144	28	226	44	138	27
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	208	83	40	73	35	52	25
NORTH CENTRAL	286	57	20	162	57	67	23
SOUTH	229	48	21	118	52	63	28
WEST	239	76	32	48	20	115	48
METRO/CITY TYPE							
CENTRAL	174	41	24	69	40	64	37
SUBURBAN	511	157	31	190	37	164	32
INDEPENDENT	277	66	24	142	51	69	25
FORM OF GOVERNMENT							
MAYOR-COUNCIL	224	70	31	98	44	56	25
COUNCIL-MANAGER	684	175	26	286	42	223	33
COMMISSION	27	8	30	10	37	9	33
TOWN MEETING	19	8	42	6	32	5	26
REP. TOWN MEETING	8	3	38	1	13	4	50

TABLE 44.

ENVIRONMENTAL SECTION IN COUNTY PLAN

	NO. OF REPORTING (A)	MASTER PLAN INCLUDES ENVIR SECTION		MASTER PLAN DOES NOT INCLUDE SEC		UNDER CONSIDERATION	
		NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	130	31	24	43	33	56	43
POPULATION GROUP							
OVER 500,000	21	4	19	4	19	13	62
250,000-500,000	20	6	30	7	35	7	35
100,000-250,000	43	14	33	11	26	18	42
50,000-100,000	46	7	15	21	46	18	39
25,000- 50,000	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	33	10	30	10	30	13	39
NORTH CENTRAL	33	6	18	11	33	16	48
SOUTH	34	5	15	16	47	13	38
WEST	30	10	33	6	20	14	47
METRO STATUS							
METRO	90	19	21	31	34	40	44
NON METRO	40	12	30	12	30	16	40
FORM OF GOVERNMENT							
WITHOUT ADMINISTRATOR	45	10	22	23	51	12	27
WITH ADMINISTRATOR	52	15	29	10	19	27	52
UNKNOWN	33	6	18	10	30	17	52

TABLE 45

CITY ADOPTED ENVIRONMENTAL QUALITY STANDARDS

	Number Responding (A)	Number Reporting Standards		Air		Noise		Sewerage		Water	
		No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All Cities	1115	691	62	204	18	196	18	596	53	474	43
Population Group											
Over 500,000	10	10	100	5	50	4	40	6	60	5	50
250,000-500,000	18	15	83	10	56	3	17	13	72	11	61
100,000-250,000	61	44	72	23	38	13	21	36	59	32	52
50,000-100,000	142	97	68	35	25	33	23	80	56	66	46
25,000- 50,000	282	179	63	59	21	56	20	146	52	115	41
10,000- 25,000	602	346	57	72	12	87	14	315	52	245	41
Geographic Region											
Northeast	252	146	58	43	17	38	15	124	49	85	34
North Central	327	204	62	84	26	55	17	171	52	146	45
South	274	182	66	50	18	43	16	168	61	142	52
West	262	159	61	27	10	60	23	133	51	101	39
Metro/City Type											
Central	195	151	77	61	31	42	22	129	66	112	57
Suburban	592	335	57	105	18	111	19	270	46	211	36
Independent	328	205	63	38	12	43	13	197	60	151	46
Form of Government											
Mayor-Council	279	160	57	62	22	43	15	138	49	110	39
Council-Manager	769	493	64	134	17	143	19	423	55	338	44
Other	67	38	57	8	12	10	15	35	52	26	39

TABLE 46

COUNTY ADOPTED ENVIRONMENTAL QUALITY STANDARDS

	Number Responding (A)	Number Reporting Standards		Air		Noise		Sewerage		Water	
		No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All Counties	177	89	50	54	31	10	6	73	41	55	31
Population Group											
Over 500,000	25	18	72	17	68	4	16	14	56	11	44
250,000-500,000	27	17	63	10	37	3	11	12	44	13	48
100,000-250,000	57	31	54	18	32	2	4	26	46	18	32
50,000-100,000	68	23	34	9	13	1	1	21	31	13	19
Geographic Region											
Northeast	40	11	28	5	13	1	3	11	28	7	18
North Central	49	25	51	11	22	1	2	20	41	15	31
South	55	28	51	15	27	4	7	22	40	17	31
West	33	25	76	23	70	4	12	20	61	16	48
Metro Status											
Metro	119	67	56	44	37	9	8	52	44	41	34
Non Metro	58	22	38	10	17	1	2	21	36	14	24
Form of Government											
Without Administrator	56	22	39	10	18	2	4	16	29	11	20
With Administrator	69	47	68	37	54	8	12	40	58	32	46
Unknown	52	20	38	7	13	0	0	17	33	12	23

TABLE 47

ENVIRONMENTAL AREAS REGULARLY MONITORED BY CITY

	AIR			NOISE			SEWERAGE			WATER		
	Adopting Standards No. (A)	Monitoring Standards No.	%(A)	Adopting Standards No. (A)	Monitoring Standards No.	%(A)	Adopting Standards No. (A)	Monitoring Standards No.	%(A)	Adopting Standards No. (A)	Monitoring Standards No.	%(A)
Total, All Cities	204	176	86	196	76	39	596	517	87	474	443	93
Population Group												
Over 500,000	5	6	120	4	3	75	6	5	83	5	6	120
250,000-500,000	10	11	110	3	4	133	13	11	85	11	11	100
100,000-250,000	23	25	109	13	6	46	36	34	94	32	28	88
50,000-100,000	35	35	100	33	18	54	80	75	94	66	65	98
25,000- 50,000	59	41	69	56	13	23	146	126	86	115	109	95
10,000- 25,000	72	58	81	87	32	37	315	266	84	245	224	91
Geographic Region												
Northeast	43	36	84	38	16	42	124	107	86	85	77	91
North Central	84	71	85	55	21	38	171	141	82	146	131	90
South	50	43	86	43	15	35	168	159	95	142	140	99
West	27	26	96	60	24	40	133	110	83	101	95	94
Metro/City Type												
Central	61	65	107	42	19	45	129	119	92	112	108	96
Suburban	105	77	73	111	40	36	270	226	84	211	190	90
Independent	38	34	89	43	17	40	197	172	87	151	145	96
Form of Government												
Mayor-Council	62	49	79	43	20	47	138	115	83	110	99	90
Council-Manager	134	117	87	143	54	38	423	373	88	338	323	96
Other	8	10	125	10	2	20	35	29	83	26	21	81

TABLE 48

ENVIRONMENTAL AREAS REGULARLY MONITORED BY COUNTY

	AIR			NOISE			SEWERAGE			WATER		
	Adopting Standards	Monitoring Standards		Adopting Standards	Monitoring Standards		Adopting Standards	Monitoring Standards		Adopting Standards	Monitoring Standards	
	No. (A)	No.	%(A)	No. (A)	No.	%(A)	No. (A)	No.	%(A)	No. (A)	No.	%(A)
Total, All Counties	54	57	106	10	5	50	73	63	86	55	55	100
Population Group												
Over 500,000	17	17	100	4	2	50	14	15	107	11	13	118
250,000-500,000	10	10	100	3	1	33	12	9	75	13	12	92
100,000-250,000	18	20	111	2	1	50	26	24	92	18	19	106
50,000-100,000	9	10	111	1	1	100	21	15	71	13	11	85
Geographic Region												
Northeast	5	5	100	1	0	0	11	9	82	7	8	114
North Central	11	12	109	1	1	100	20	16	80	15	12	80
South	15	16	107	4	1	25	22	19	86	17	16	94
West	23	24	104	4	3	75	20	19	95	16	19	119
Metro Status												
Metro	44	46	105	9	4	44	52	47	90	41	44	107
Non Metro	10	11	110	1	1	100	21	16	76	14	11	79
Form of Government												
Without Administrator	10	11	110	2	1	50	16	14	88	11	11	100
With Administrator	37	40	108	8	4	50	40	34	85	32	32	100
Unknown	7	6	86	0	0	0	17	15	88	12	12	100

TABLE 49.

CITY REQUIREMENTS FOR ENVIRONMENTAL IMPACT STATEMENTS

	NO. OF REPORTING (A)	ON PUBLIC & PRIVATE PROJECTS		ON PUBLIC PROJECTS ONLY		ON PRIVATE PROJECTS ONLY		NONE ADOPTED	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	1038	207	20	88	8	20	2	723	70
POPULATION GROUP									
OVER 500,000	10	1	10	3	30	0	0	6	60
250,000-500,000	18	6	33	1	6	0	0	11	61
100,000-250,000	58	14	24	2	3	1	2	41	71
50,000-100,000	139	46	33	8	6	1	1	84	60
25,000- 50,000	264	52	20	20	8	6	2	186	70
10,000- 25,000	549	88	16	54	10	12	2	395	72
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	223	27	12	6	3	7	3	183	82
NORTH CENTRAL	306	15	5	30	10	5	2	256	84
SOUTH	256	14	5	30	12	3	1	209	82
WEST	253	151	60	22	9	5	2	75	30
METRO/CITY TYPE									
CENTRAL	190	36	19	12	6	1	1	141	74
SUBURBAN	546	148	27	38	7	14	3	346	63
INDEPENDENT	302	23	8	38	13	5	2	236	78
FORM OF GOVERNMENT									
MAYOR-COUNCIL	250	23	9	22	9	5	2	200	80
COUNCIL-MANAGER	733	174	24	60	8	14	2	485	66
COMMISSION	28	4	14	6	21	1	4	17	61
TOWN MEETING	20	5	25	0	0	0	0	15	75
REP. TOWN MEETING	7	1	14	0	0	0	0	6	86

TABLE 50.

COUNTY REQUIREMENTS FOR ENVIRONMENTAL IMPACT STATEMENTS

	NO. OF REPORTING (A)	ON PUBLIC & PRIVATE PROJECTS		ON PUBLIC PROJECTS ONLY		ON PRIVATE PROJECTS ONLY		NONE ADOPTED	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	161	36	22	19	12	2	1	104	65
POPULATION GROUP									
OVER 500,000	24	7	29	3	13	2	8	12	50
250,000-500,000	25	7	28	5	20	0	0	13	52
100,000-250,000	53	13	25	7	13	0	0	33	62
50,000-100,000	59	9	15	4	7	0	0	46	78
25,000- 50,000	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	36	4	11	5	14	0	0	27	75
NORTH CENTRAL	44	5	11	8	18	0	0	31	70
SOUTH	49	6	12	4	8	1	2	38	78
WEST	32	21	66	2	6	1	3	8	25
METRO STATUS									
METRO	109	25	23	15	14	2	2	67	61
NON METRO	52	11	21	4	8	0	0	37	71
FORM OF GOVERNMENT									
WITHOUT ADMINISTRATOR	49	5	10	6	12	0	0	38	78
WITH ADMINISTRATOR	66	23	35	8	12	2	3	33	50
UNKNOWN	46	8	17	5	11	0	0	33	72

TABLE 51

AUTHORS OF CITY ENVIRONMENTAL IMPACT STATEMENTS

	FORMAL REQUIREMENTS ADOPTED (A)	CHIEF EXEC'S OFFICE		ENVIRONMENTAL DEPT.		OTHER DEPT(S)		OUTSIDE CONSULTANT TO MUNICIP		PRIVATE DEVELOPER		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	315	45	14	44	14	127	.40	64	27	104	33	48	15
POPULATION GROUP													
OVER 500,000	4	0	0	1	25	1	25	1	25	1	25	0	0
250,000-500,000	7	0	0	2	29	6	86	2	29	5	71	0	0
100,000-250,000	17	0	0	8	47	13	76	6	47	8	47	2	12
50,000-100,000	55	3	5	9	16	26	47	12	22	22	40	13	24
25,000- 50,000	78	6	8	9	12	38	49	22	28	29	37	10	13
10,000- 25,000	154	36	23	15	10	43	28	39	25	39	25	23	15
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	40	9	23	6	15	18	45	9	23	12	30	6	15
NORTH CENTRAL	50	9	18	8	16	10	20	7	14	6	12	5	10
SOUTH	47	13	28	2	4	8	17	17	36	3	6	8	17
WEST	178	14	8	28	16	91	51	51	29	83	47	29	16
METRO/CITY TYPE													
CENTRAL	49	2	4	15	31	27	55	15	31	19	39	8	16
SUBURBAN	200	27	14	24	12	86	43	52	26	73	37	29	15
INDEPENDENT	66	16	24	5	8	14	21	17	26	12	18	11	17
FORM OF GOVERNMENT													
MAYOR-COUNCIL	50	11	22	9	18	16	32	14	28	11	22	5	10
COUNCIL-MANAGER	248	31	13	32	13	104	42	66	27	91	37	35	16
COMMISSION	11	1	9	2	18	3	27	3	27	2	18	4	36
TOWN MEETING	5	2	40	0	0	3	60	1	20	0	0	0	0
REP. TOWN MEETING	1	0	0	1	100	1	100	0	0	0	0	0	0

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TABLE 52

AUTHORS OF COUNTY ENVIRONMENTAL IMPACT STATEMENTS

	FORMAL RE-QUIREMENTS ADOPTED	CHIEF EXEC'S OFFICE		ENVIRON-MENTAL DEPT.		OTHER DEPT(S)		OUTSIDE CONSULTANT TO MUNICIP		PRIVATE DEVELOPER		OTHER	
	(A)	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	57	2	4	16	28	23	40	13	23	9	16	12	21
POPULATION GROUP													
OVER 500,000	12	0	0	5	42	9	75	4	33	6	50	2	17
250,000-500,000	12	0	0	2	17	4	33	3	25	2	17	4	33
100,000-250,000	20	1	5	5	25	9	45	3	15	1	5	3	15
50,000-100,000	13	1	8	4	31	1	8	3	23	0	0	3	23
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	9	0	0	1	11	3	33	2	22	1	11	2	22
NORTH CENTRAL	13	0	0	3	23	3	23	3	23	0	0	2	15
SOUTH	11	1	9	3	27	4	36	1	9	1	9	3	27
WEST	24	1	4	9	38	13	54	7	29	7	29	5	21
METRO STATUS													
METRO	42	1	2	11	26	20	48	9	21	9	21	9	21
NON METRO	15	1	7	5	33	3	20	4	27	0	0	3	20
FORM OF GOVERNMENT													
WITHOUT ADMINISTRATOR	11	1	9	2	18	3	27	2	18	1	9	3	27
WITH ADMINISTRATOR	33	0	0	12	36	16	48	8	24	7	21	7	21
UNKNOWN	13	1	8	2	15	4	31	3	23	1	8	2	15

TABLE 53

REVIEWER OF CITY ENVIRONMENTAL IMPACT STATEMENTS

	FORMAL RE-QUIREMENTS ADOPTED (A)	CITIZENS OR CITIZEN GROUPS		GOVERNING BODY		CHIEF EXECUTIVE		ADMINISTRATIVE STAFF		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	315	41	13	145	46	71	23	153	49	101	32
POPULATION GROUP											
OVER 500,000	4	0	0	1	25	1	25	1	25	0	0
250,000-500,000	7	1	14	6	86	1	14	5	71	3	43
100,000-250,000	17	6	35	9	53	2	12	11	65	8	47
50,000-100,000	55	8	15	28	51	12	22	27	49	26	47
25,000- 50,000	78	13	17	36	46	17	22	48	62	23	29
10,000- 25,000	154	13	8	65	42	38	25	61	40	41	27
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	40	3	8	14	35	13	33	17	43	13	33
NORTH CENTRAL	50	4	8	19	38	8	16	12	24	8	16
SOUTH	47	5	11	17	36	20	43	18	38	8	17
WEST	178	29	16	95	53	30	17	106	60	72	40
METRO/CITY TYPE											
CENTRAL	49	14	29	26	53	11	22	29	59	18	37
SUBURBAN	200	20	10	104	52	41	21	103	52	67	34
INDEPENDENT	66	7	11	15	23	19	29	21	32	16	24
FORM OF GOVERNMENT											
MAYOR-COUNCIL	50	5	10	18	36	13	26	11	22	14	28
COUNCIL-MANAGER	248	33	13	121	49	55	22	137	55	84	34
COMMISSION	11	3	27	3	27	2	18	4	36	2	18
TOWN MEETING	5	0	0	3	60	1	20	1	20	0	0
REP. TOWN MEETING	1	0	0	0	0	0	0	0	0	1	100

TABLE 54

REVIEWER OF COUNTY ENVIRONMENTAL IMPACT STATEMENTS

	FORMAL REQUIREMENTS ADOPTED (A)	CITIZENS OR CITIZEN GROUPS		GOVERNING BODY		CHIEF EXECUTIVE		ADMINISTRATIVE STAFF		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	57	7	12	21	37	8	14	18	32	23	40
POPULATION GROUP											
OVER 500,000	12	3	25	6	50	2	17	5	42	8	67
250,000-500,000	12	1	8	4	33	1	8	5	42	5	42
100,000-250,000	20	3	15	8	40	4	20	6	30	6	30
50,000-100,000	13	0	0	3	23	1	8	2	15	4	31
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	9	0	0	1	11	1	11	1	11	4	44
NORTH CENTRAL	13	3	23	4	31	2	15	4	31	6	46
SOUTH	11	0	0	4	36	4	36	4	36	2	18
WEST	24	4	17	12	50	1	4	9	38	11	46
METRO STATUS											
METRO	42	7	17	16	38	7	17	16	38	19	45
NON METRO	15	0	0	5	33	1	7	2	13	4	27
FORM OF GOVERNMENT											
WITHOUT ADMINISTRATOR	11	3	27	1	9	0	0	2	18	5	45
WITH ADMINISTRATOR	33	4	12	15	45	7	21	13	39	14	42
UNKNOWN	13	0	0	5	38	1	8	3	23	4	31

TABLE 55.

CITY IMPOSED MORATORIA IN LAST TWO YEARS

	NO. OF REPORTING (A)	MUNICIPALTY HAS IMPOSED MORATORIUM NO.B	% A	MUNICIPAL HAS NOT IMPOSED MORAT NO.	% A
TOTAL, ALL CITIES	1070	203	19	867	81
POPULATION GROUP					
OVER 500,000	10	3	30	7	70
250,000-500,000	18	3	17	15	83
100,000-250,000	60	12	20	48	80
50,000-100,000	138	32	23	106	77
25,000- 50,000	269	48	18	221	82
10,000- 25,000	575	105	18	470	82
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	243	46	19	197	81
NORTH CENTRAL	309	48	16	261	84
SOUTH	265	43	16	222	84
WEST	253	66	26	187	74
METRO/CITY TYPE					
CENTRAL	191	34	18	157	82
SUBURBAN	568	129	23	439	77
INDEPENDENT	311	40	13	271	87
FORM OF GOVERNMENT					
MAYOR-COUNCIL	266	55	21	211	79
COUNCIL-MANAGER	741	142	19	599	81
COMMISSION	33	4	12	29	88
TOWN MEETING	23	1	4	22	96
REP. TOWN MEETING	7	1	14	6	86

TABLE 56.

TYPE OF DELAY CAUSED BY CITY MORATORIA

	HAVE IMPOSED MORATURIUM	ISSUANCE OF BUILDING PERMITS		REQUESTS FOR RE-ZONING		WATER OR SEWER CON-NECTIONS		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	203	125	62	73	36	84	41	26	13
POPULATION GROUP									
OVER 500,000	3	2	67	0	0	2	67	0	0
250,000-500,000	3	2	67	0	0	2	67	0	0
100,000-250,000	12	7	58	4	33	4	33	1	8
50,000-100,000	32	19	59	14	44	14	44	5	16
25,000- 50,000	48	32	67	21	44	14	29	8	17
10,000- 25,000	105	63	60	34	32	48	46	12	11
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	46	27	59	11	24	21	46	6	13
NORTH CENTRAL	48	22	46	13	27	25	52	9	19
SOUTH	43	25	58	17	40	27	63	3	7
WEST	66	51	77	32	48	11	17	8	12
METRO/CITY TYPE									
CENTRAL	34	25	74	11	32	20	59	2	6
SUBURBAN	129	80	62	48	37	44	34	21	16
INDEPENDENT	40	20	50	14	35	20	50	3	8
FORM OF GOVERNMENT									
MAYOR-COUNCIL	55	29	53	11	20	29	53	4	7
COUNCIL-MANAGER	142	93	65	60	42	51	36	21	15
COMMISSION	4	2	50	2	50	3	75	0	0
TOWN MEETING	1	0	0	0	0	1	100	1	100
REP. TOWN MEETING	1	1	100	0	0	0	0	0	0

TABLE 57.

COUNTY IMPOSED MORATORIA IN LAST TWO YEARS

	NO. OF REPORTING (A)	MUNICIPALTY HAS IMPOSED MORATORIUM NO.B	% A	MUNICIPAL HAS NOT IMPOSED MORAT NO.	% A
TOTAL, ALL COUNTIES	159	33	21	126	79
POPULATION GROUP					
OVER 500,000	23	11	48	12	52
250,000-500,000	25	8	32	17	68
100,000-250,000	52	4	8	48	92
50,000-100,000	59	10	17	49	83
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	34	5	15	29	85
NORTH CENTRAL	44	4	9	40	91
SOUTH	48	13	27	35	73
WEST	33	11	33	22	67
METRO STATUS					
METRO	106	26	25	80	75
NON METRO	53	7	13	46	87
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	50	6	12	44	88
WITH ADMINISTRATOR	65	19	29	46	71
UNKNOWN	44	8	18	36	82

TABLE 58

TYPE OF DELAY CAUSED BY COUNTY MORATORIA

	HAVE IMPOSED MORATORIUM	ISSUANCE OF BUILDING PERMITS		REQUESTS FOR RE-ZONING		WATER OR SEWER CON-NECTIONS		OTHER	
	B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	33	17	52	11	33	15	45	4	12
POPULATION GROUP									
OVER 500,000	11	7	64	4	36	4	36	2	18
250,000-500,000	8	3	38	3	38	3	38	2	25
100,000-250,000	4	2	50	1	25	4	100	0	0
50,000-100,000	10	5	50	3	30	4	40	0	0
25,000- 50,000	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION									
NORTHEAST	5	2	40	1	20	3	60	0	0
NORTH CENTRAL	4	3	75	1	25	2	50	1	25
SOUTH	13	9	69	8	62	6	46	0	0
WEST	11	3	27	1	9	4	36	3	27
METRO STATUS									
METRO	26	14	54	9	35	12	46	4	15
NON METRO	7	3	43	2	29	3	43	0	0
FORM OF GOVERNMENT									
WITHOUT ADMINISTRATOR	6	3	50	1	17	5	83	0	0
WITH ADMINISTRATOR	19	10	53	7	37	6	32	4	21
UNKNOWN	8	4	50	3	38	4	50	0	0

TABLE 59

CITY TAX INCENTIVES OR SUBSIDIES TO IMPROVE THE ENVIRONMENT

	NO. OF REPORTING (A)	MUNICIPAL HAS TAX INCENTIVES NO.		MUNICIPAL DOES NOT HAVE INCNT NO.		UNDER CONSIDERATION NO.	
		NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	1067	29	3	1022	96	16	1
POPULATION GROUP							
OVER 500,000	8	1	13	7	88	0	0
250,000-500,000	18	0	0	17	94	1	6
100,000-250,000	60	2	3	58	97	0	0
50,000-100,000	139	5	4	131	94	3	2
25,000- 50,000	268	6	2	257	96	5	2
10,000- 25,000	574	15	3	552	96	7	1
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	241	5	2	234	97	2	1
NORTH CENTRAL	307	15	5	288	94	4	1
SOUTH	265	5	2	255	96	5	2
WEST	254	4	2	245	96	5	2
METRO/CITY TYPE							
CENTRAL	188	7	4	176	94	5	3
SUBURBAN	564	12	2	543	96	9	2
INDEPENDENT	315	10	3	303	96	2	1
FORM OF GOVERNMENT							
MAYOR-COUNCIL	262	10	4	247	94	5	2
COUNCIL-MANAGER	743	19	3	713	96	11	1
COMMISSION	32	0	0	32	100	0	0
TOWN MEETING	23	0	0	23	100	0	0
REP. TOWN MEETING	7	0	0	7	100	0	0

TABLE 60.

COUNTY TAX INCENTIVES OR SUBSIDIES TO IMPROVE THE ENVIRONMENT

	NO. OF REPORTING (A)	MUNICIPAL HAS TAX INCENTIVES		MUNICIPAL DOES NOT HAVE INCNT		UNDER CONSIDERATION	
		NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	160	15	9	137	86	8	5
POPULATION GROUP							
OVER 500,000	24	7	29	16	67	1	4
250,000-500,000	24	2	8	21	88	1	4
100,000-250,000	52	5	10	44	85	3	6
50,000-100,000	60	1	2	56	93	3	5
25,000- 50,000	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	35	1	3	32	91	2	6
NORTH CENTRAL	45	4	9	39	87	2	4
SOUTH	48	5	10	40	83	3	6
WEST	32	5	16	26	81	1	3
METRO STATUS							
METRO	107	14	13	87	81	6	6
NON METRO	53	1	2	50	94	2	4
FORM OF GOVERNMENT							
WITHOUT ADMINISTRATOR	50	2	4	47	94	1	2
WITH ADMINISTRATOR	66	12	18	51	77	3	5
UNKNOWN	44	1	2	39	89	4	9

TABLE 61.

CITY PENALTY STRUCTURE FOR DISCHARGING POLLUTANTS

	NO. OF REPORTING (A)	MUNICIPALTY HAS PENALTY STRUCTURE		MUNICIPAL DOES NOT HAVE PNLTY		UNDER CONSIDERATION	
		NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	1067	258	24	758	71	51	5
POPULATION GROUP							
OVER 500,000	9	3	33	5	56	1	11
250,000-500,000	18	6	33	11	61	1	6
100,000-250,000	60	22	37	36	60	2	3
50,000-100,000	139	30	22	100	72	9	6
25,000- 50,000	270	70	26	190	70	10	4
10,000- 25,000	571	127	22	416	73	28	5
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	240	49	20	179	75	12	5
NORTH CENTRAL	310	69	29	205	66	16	5
SOUTH	263	77	29	172	65	14	5
WEST	254	43	17	202	80	9	4
METRO/CITY TYPE							
CENTRAL	190	55	29	123	65	12	6
SUBURBAN	562	124	22	418	74	20	4
INDEPENDENT	315	79	25	217	69	19	6
FORM OF GOVERNMENT							
MAYOR-COUNCIL	264	73	28	171	65	20	8
COUNCIL-MANAGER	740	174	24	538	73	28	4
COMMISSION	32	7	22	23	72	2	6
TOWN MEETING	24	4	17	19	79	1	4
REP. TOWN MEETING	7	0	0	7	100	0	0

TABLE 62.

COUNTY PENALTY STRUCTURE FOR DISCHARGING POLLUTANTS

	NO. OF REPORTING (A)	MUNICIPALTY HAS PENALTY STRUCTURE NO.	% A	MUNICIPAL DOES NOT HAVE PNLTY NO.	% A	UNDER CONSIDERATION NO.	% A
TOTAL, ALL COUNTIES	159	35	22	119	75	5	3
POPULATION GROUP							
OVER 500,000	24	11	46	12	50	1	4
250,000-500,000	24	5	21	19	79	0	0
100,000-250,000	53	12	23	39	74	2	4
50,000-100,000	58	7	12	49	84	2	3
25,000- 50,000	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0
GEOGRAPHIC REGION							
NORTHEAST	35	4	11	29	83	2	6
NORTH CENTRAL	45	7	16	37	82	1	2
SOUTH	49	11	22	36	73	2	4
WEST	30	13	43	17	57	0	0
METRO STATUS							
METRO	107	28	26	75	70	4	4
NON METRO	52	7	13	44	85	1	2
FORM OF GOVERNMENT							
WITHOUT ADMINISTRATOR	51	6	12	44	86	1	2
WITH ADMINISTRATOR	66	20	30	46	70	0	0
UNKNOWN	42	9	21	29	69	4	10

TABLE 63.

CITY INITIATED MAJOR ENVIRONMENTAL LEGAL SUITS IN LAST TWO YEARS

	NO. OF REPORTING (A)	HAVE INITIATED LEGAL SUITS		HAVE NOT INITIATED LEGAL SUITS	
		NO.	% A	NO.	% A
TOTAL, ALL CITIES	1073	102	10	971	90
POPULATION GROUP					
OVER 500,000	10	1	10	9	90
250,000-500,000	18	3	17	15	83
100,000-250,000	61	5	8	56	92
50,000-100,000	139	14	10	125	90
25,000- 50,000	269	27	10	242	90
10,000- 25,000	576	52	9	524	91
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	244	26	11	218	89
NORTH CENTRAL	312	38	12	274	88
SOUTH	265	15	6	250	94
WEST	252	23	9	229	91
METRO/CITY TYPE					
CENTRAL	190	16	8	174	92
SUBURBAN	569	62	11	507	89
INDEPENDENT	314	24	8	290	92
FORM OF GOVERNMENT					
MAYOR-COUNCIL	266	25	9	241	91
COUNCIL-MANAGER	745	69	9	676	91
COMMISSION	31	5	16	26	84
TOWN MEETING	23	3	13	20	87
REP. TOWN MEETING	8	0	0	8	100

TABLE 64.

COUNTY INITIATED MAJOR ENVIRONMENTAL LEGAL SUITS IN LAST TWO YEARS

	NO. OF REPORTING (A)	HAVE INITI- ATED LEGAL SUITS		HAVE NOT INITIATED LEGAL SUITS	
		NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	163	23	14	140	86
POPULATION GROUP					
OVER 500,000	25	8	32	17	68
250,000-500,000	26	3	12	23	88
100,000-250,000	51	8	16	43	84
50,000-100,000	61	4	7	57	93
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	36	3	8	33	92
NORTH CENTRAL	45	7	16	38	84
SOUTH	50	9	18	41	82
WEST	32	4	13	28	88
METRO STATUS					
METRO	111	18	16	93	84
NON METRO	52	5	10	47	90
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	52	3	6	49	94
WITH ADMINISTRATOR	67	15	22	52	78
UNKNOWN	44	5	11	39	89

Table 65

Local Intergovernmental Service Agreements for Environmental Functions*

SERVICE	City Size 2,500 - 25,000 (N+ = 1,867)								City Size 25,000 & over (N+ = 381)								Total (N+ = 2,248)							
			Provider of Service**								Provider of Service**								Provider of Service**					
	TOTAL♯		Local Govern-ment		Spe-cial Dis-trict		COG or Region-al Units		TOTAL♯		Local Govern-ment		Spe-cial Dis-trict		COG or Region-al Units		TOTAL♯		Local Govern-ment		Spe-cial Dis-trict		COG or Region-al Units	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Air Pollution Abatement	92	5	75	82	7	8	10	11	29	8	20	69	2	7	7	24	121	5	95	79	9	7	17	14
Noise Abatement	32	2	27	84	2	6	3	9	12	3	10	83	-	-	2	17	44	2	37	84	2	5	5	11
Water Pollution Abatement	42	2	30	71	6	14	6	14	12	3	8	67	3	25	1	8	54	2	38	70	9	17	7	13
Soil Conser-vation	30	2	20	67	7	23	3	10	12	3	8	67	3	25	1	8	42	2	28	67	10	24	4	10
Refuse Collection	32	2	26	81	5	16	1	3	7	2	1	14	5	71	1	14	39	2	27	69	10	26	2	5
Sewage Disposal	195	10	119	61	60	31	16	8	80	21	46	58	27	34	7	9	675	12	165	60	87	32	23	8
Sewer Lines	79	4	44	56	28	35	7	9	22	6	15	68	6	27	1	5	101	4	59	58	34	34	8	8
Solid Waste Disposal	125	7	109	87	9	7	7	6	43	11	37	86	5	12	1	2	168	7	146	87	14	8	8	5
Water Supply	155	8	108	70	42	27	5	3	52	14	27	52	23	44	2	4	207	9	135	65	65	31	9	3
Water Dis-tribution	85	5	48	56	32	38	5	6	11	3	10	91	1	9	-	-	96	4	58	60	33	34	5	5
Planning	130	7	75	58	6	5	49	38	34	9	12	35	3	9	19	56	164	7	87	53	9	5	68	41
Zoning & Subdiv-ision Control	64	3	51	80	2	3	11	17	8	2	6	75	-	-	2	25	72	3	57	79	2	3	13	18

* Sources: Recalculated from: Joseph F. Zimmerman, Urban Data Service, Intergovernmental Service Agreements for Smaller Municipalities (Washington, D. C., International City Management Association, 1973), Table 11, p. 7 and Joseph F. Zimmerman, "Meeting Service Needs Through Intergovernmental Agreements," in The Municipal Year Book: 1973 (Washington, D. C.: International City Management Association, 1973), Table 3/10, pp. 84-5.

+ = Number responding to Survey.

♯ Percentages based on the total responding to the survey.

** Percentages based on the total reporting they are receiving services.

TABLE 66

CITY EVALUATION OF ENVIRONMENTAL AGENCY

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	160	29	93	28	8	2	76 - 6 = 70
Population Group							
Over 500,000	5	2	3	0	0	0	100 - 0 = 100
250,000-500,000	7	4	2	1	0	0	86 - 0 = 86
100,000-250,000	21	3	14	2	2	0	81 - 10 = 71
50,000-100,000	27	3	19	2	3	0	81 - 11 = 70
25,000- 50,000	40	6	23	8	3	0	72 - 8 = 64
10,000- 25,000	60	11	32	15	0	2	72 - 3 = 64
Geographic Region							
Northeast	38	9	19	9	1	0	74 - 3 = 71
North Central	47	8	29	7	2	1	79 - 6 = 73
South	22	2	16	1	3	0	82 - 14 = 68
West	53	10	29	11	2	1	74 - 6 = 68
Metro/City Type							
Central	50	11	30	5	4	0	82 - 8 = 74
Suburban	83	14	46	18	3	2	72 - 6 = 66
Independent	27	4	17	5	1	0	78 - 4 = 74
Form of Government							
Mayor-Council	42	9	26	5	2	0	83 - 5 = 78
Council-Manager	110	19	65	19	5	2	76 - 6 = 70
Other	8	1	2	4	1	0	38 - 13 = 25

TABLE 67

COUNTY EVALUATION OF ENVIRONMENTAL AGENCY

	Number of Users Reporting A	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectivenes Index
TOTAL, ALL COUNTIES	62	10	39	10	3	0	79 - 5 = 74
Population Group							
Over 500,000	15	2	11	2	0	0	87 - 0 = 87
250,000-500,000	10	2	6	1	1	0	80 -10 = 70
100,000-250,000	20	5	13	1	1	0	90 - 5 = 85
50,000-100,000	17	1	9	6	1	0	59 - 6 = 53
Geographic Region							
Northeast	17	2	13	2	0	0	88 - 0 = 88
North Central	13	2	7	4	0	0	69 - 0 = 69
South	17	4	10	2	1	0	82 - 6 = 76
West	15	2	9	2	2	0	73 -13 = 60
Metro Status							
Metro	43	8	28	5	2	0	84 - 5 = 79
Non Metro	19	2	11	5	1	0	68 - 5 = 63
Form of Government							
Without Administrator	16	2	10	3	1	0	75 - 6 = 69
With Administrator	31	6	19	5	1	0	81 - 3 = 78
Unknown	15	2	10	2	1	0	80 - 7 = 73

TABLE 68

CITY EVALUATION OF CITIZEN ENVIRONMENTAL ADVISORY BOARD (CREATED)

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	207	15	111	56	17	8	61 - 12 = 49
Population Group							
Over 500,000	5	1	3	1	0	0	80 - 0 = 80
250,000-500,000	8	0	5	3	0	0	63 - 0 = 63
100,000-250,000	16	3	7	5	1	0	63 - 6 = 57
50,000-100,000	38	2	17	13	4	2	50 - 16 = 34
25,000- 50,000	58	3	30	15	8	2	57 - 17 = 40
10,000- 25,000	82	6	49	19	4	4	67 - 10 = 57
Geographic Region							
Northeast	71	4	33	27	4	3	52 - 10 = 42
North Central	61	7	37	11	6	0	72 - 10 = 62
South	33	3	19	8	2	1	67 - 9 = 58
West	42	1	22	10	5	4	55 - 21 = 34
Metro/City Type							
Central	50	4	24	17	4	1	56 - 10 = 46
Suburban	121	9	64	32	10	6	60 - 13 = 47
Independent	36	2	23	7	3	1	69 - 11 = 58
Form of Government							
Mayor-Council	61	5	36	18	2	0	67 - 3 = 64
Council-Manager	131	9	65	34	15	8	56 - 18 = 38
Other	15	1	10	4	0	0	73 - 0 = 73

TABLE 69

CITY EVALUATION OF CITIZEN ADVISORY BOARD EXPANDED TO INCLUDE ENVIRONMENT

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	366	18	153	120	49	26	47 - 20 = 27
Population Group							
Over 500,000	0	0	0	0	0	0	- - -
250,000-500,000	10	0	7	3	0	0	70 - 0 = 70
100,000-250,000	27	2	10	8	6	1	44 - 26 = 18
50,000-100,000	51	1	21	17	7	5	43 - 24 = 19
25,000- 50,000	84	4	29	25	17	9	39 - 31 = 8
10,000- 25,000	194	11	86	67	19	11	50 - 15 = 35
Geographic Region							
Northeast	94	4	38	32	13	7	45 - 21 = 24
North Central	106	7	47	29	13	10	51 - 22 = 29
South	64	4	27	22	9	2	48 - 17 = 31
West	102	3	41	37	14	7	43 - 21 = 22
Metro/City Type							
Central	67	3	26	21	12	5	43 - 25 = 18
Suburban	193	10	79	64	23	17	46 - 21 = 25
Independent	106	5	48	35	14	4	50 - 17 = 33
Form of Government							
Mayor-Council	102	5	47	35	8	7	51 - 15 = 36
Council-Manager	246	12	95	82	39	18	43 - 19 = 24
Other	18	1	11	3	2	1	67 - 17 = 50

TABLE 70

COUNTY EVALUATION OF CITIZEN ENVIRONMENTAL ADVISORY BOARD

	Number of Users Reporting A	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
TOTAL, ALL COUNTIES	45	7	19	13	6	0	58 - 13 = 45
Population Group							
Over 500,000	8	0	3	4	1	0	38 - 13 = 25
250,000-500,000	9	2	3	3	1	0	56 - 11 = 45
100,000-250,000	16	3	7	2	4	0	63 - 25 = 38
50,000-100,000	12	2	6	4	0	0	67 - 0 = 67
Geographic Region							
Northeast	11	0	8	3	0	0	73 - 0 = 73
North Central	13	4	4	5	0	0	62 - 0 = 62
South	10	1	4	1	4	0	50 - 40 = 10
West	11	2	3	4	2	0	45 - 18 = 27
Metro Status							
Metro	31	5	11	10	5	0	52 - 16 = 36
Non Metro	14	2	8	3	1	0	71 - 7 = 64
Form of Government							
Without Administrator	12	3	5	4	0	0	67 - 0 = 67
With Administrator	22	2	7	8	5	0	41 - 23 = 18
Unknown	11	2	7	1	1	0	82 - 9 = 73

TABLE 71

COUNTY EVALUATION OF CITIZEN ADVISORY BOARD EXPANDED TO INCLUDE ENVIRONMENT

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	59	8	24	19	7	1	54 - 14 = 40
Population Group							
Over 500,000	11	0	4	4	3	0	36 - 27 = 9
250,000-500,000	9	1	4	4	0	0	56 - 0 = 56
100,000-250,000	22	5	9	6	1	1	64 - 9 = 55
50,000-100,000	17	2	7	5	3	0	53 - 18 = 35
Geographic Region							
Northeast	10	0	6	2	2	0	60 - 20 = 40
North Central	19	5	7	6	0	1	63 - 5 = 58
South	17	1	6	6	4	0	41 - 23 = 18
West	13	2	5	5	1	0	54 - 8 = 46
Metro Status							
Metro	41	5	14	16	5	1	46 - 15 = 31
Non Metro	18	3	10	3	2	0	72 - 11 = 61
Form of Government							
Without Administrator	19	3	7	7	1	1	53 - 11 = 42
With Administrator	24	3	3	9	3	0	50 - 13 = 37
Unknown	16	2	8	3	3	0	63 - 19 = 44

TABLE 72

CITY EVALUATION OF INTERGOVERNMENTAL AND REGIONAL ARRANGEMENTS

	Number Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	652	69	317	180	62	24	59 - 13 = 46
Population Group							
Over 500,000	8	0	5	1	2	0	63 - 25 = 38
250,000-500,000	13	2	6	5	0	0	62 - 0 = 62
100,000-250,000	50	2	28	10	6	4	60 - 20 = 40
50,000-100,000	97	9	47	28	12	1	58 - 13 = 45
25,000- 50,000	160	13	87	38	16	6	63 - 14 = 49
10,000- 25,000	324	43	144	98	26	13	58 - 12 = 46
Geographic Region							
Northeast	132	18	64	33	13	4	62 - 13 = 49
North Central	193	20	93	56	17	7	59 - 12 = 47
South	145	15	65	50	13	2	55 - 10 = 45
West	182	16	95	41	19	11	61 - 16 = 45
Metro/City Type							
Central	142	12	73	40	15	2	60 - 12 = 48
Suburban	315	33	149	88	31	14	58 - 14 = 44
Independent	195	24	95	52	16	8	61 - 12 = 49
Form of Government							
Mayor-Council	149	19	70	40	12	8	60 - 13 = 47
Council-Manager	475	48	235	128	49	15	60 - 13 = 47
Other	28	2	12	12	1	1	50 - 7 = 43

TABLE 73

COUNTY EVALUATION OF INTERGOVERNMENTAL AND REGIONAL ARRANGEMENTS

	Number Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	114	18	55	28	9	4	64 - 12 = 52
Population Group							
Over 500,000	21	4	11	4	1	1	71 - 10 = 61
250,000-500,000	18	1	12	5	0	0	72 - 0 = 72
100,000-250,000	42	8	13	11	8	2	50 - 24 = 26
50,000-100,000	33	5	19	8	0	1	73 - 3 = 70
Geographic Region							
Northeast	26	4	13	4	4	1	65 - 19 = 46
North Central	28	5	17	6	0	0	79 - 0 = 79
South	32	4	12	10	4	2	50 - 19 = 31
West	28	5	13	8	1	1	64 - 7 = 57
Metro Status							
Metro	83	12	37	23	8	3	59 - 13 = 46
Non Metro	31	6	18	5	1	1	77 - 6 = 71
Form of Government							
Without Administrator	32	3	18	8	1	2	66 - 9 = 57
With Administrator	54	8	23	15	7	1	57 - 15 = 42
Unknown	28	7	14	5	1	1	75 - 7 = 68

TABLE 74

CITY EVALUATION OF LAND USE CONTROLS

	Number Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	823	259	481	56	24	3	90 - 3 = 87
Population Group							
Over 500,000	7	2	4	0	1	0	86 - 14 = 72
250,000-500,000	14	3	9	2	0	0	86 - 0 = 86
100,000-250,000	55	16	31	6	2	0	85 - 4 - 81
50,000-100,000	120	28	81	8	2	1	91 - 3 = 88
25,000- 50,000	206	68	114	15	8	1	88 - 4 = 84
10,000- 25,000	421	142	242	25	11	1	91 - 3 = 88
Geographic Region							
Northeast	178	56	108	9	4	1	92 - 3 = 89
North Central	235	73	139	15	8	0	90 - 3 = 87
South	184	47	113	17	5	2	87 - 4 = 83
West	226	83	121	15	7	0	90 - 3 = 87
Metro/City Type							
Central	157	42	95	15	4	1	87 - 3 = 84
Suburban	430	150	241	24	14	1	91 - 3 = 88
Independent	236	67	145	17	6	1	90 - 3 = 87
Form of Government							
Mayor-Council	182	57	98	17	9	1	85 - 5 = 80
Council-Manager	601	193	357	34	15	2	92 - 3 = 89
Other	40	9	26	5	0	0	88 - 0 = 88

TABLE 75

COUNTY EVALUATION OF LAND USE CONTROLS

	Number Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	120	39	63	12	6	0	86 - 5 = 81
Population Group							
Over 500,000	20	4	12	2	2	0	80 - 10 = 70
250,000-500,000	20	6	12	2	0	0	90 - 0 = 90
100,000-250,000	45	17	20	6	2	0	87 - 4 = 83
50,000-100,000	35	12	19	2	2	0	89 - 6 = 83
Geographic Region							
Northeast	26	6	14	5	1	0	77 - 4 = 73
North Central	30	11	18	1	0	0	97 - 0 = 97
South	36	12	16	3	5	0	78 - 14 = 64
West	28	10	15	3	0	0	89 - 0 = 89
Metro Status							
Metro	89	24	50	10	5	0	83 - 6 = 77
Non Metro	31	15	13	2	1	0	90 - 3 = 87
Form of Government							
Without Administrator	33	11	16	3	3	0	82 - 9 = 73
With Administrator	54	17	29	6	2	0	85 - 4 = 81
Unknown	33	11	18	3	1	0	88 - 3 = 85

TABLE 76

CITY EVALUATION OF ENVIRONMENTAL QUALITY STANDARDS

	Number Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	673	117	399	128	24	5	77 - 4 = 73
Population Group							
Over 500,000	8	3	4	0	1	0	88 - 13 = 75
250,000-500,000	15	6	6	2	1	0	80 - 7 = 73
100,000-250,000	51	6	37	6	1	1	84 - 4 = 80
50,000-100,000	94	15	61	13	3	2	81 - 5 = 76
25,000- 50,000	159	24	100	30	3	2	78 - 3 = 75
10,000- 25,000	346	63	191	77	15	0	73 - 4 = 69
Geographic Region							
Northeast	130	20	80	26	2	2	77 - 3 = 74
North Central	202	35	117	38	12	0	75 - 6 = 69
South	157	25	93	31	6	2	75 - 5 = 70
West	184	37	109	33	4	1	79 - 3 = 76
Metro/City Type							
Central	141	25	90	18	6	2	82 - 6 = 76
Suburban	334	62	192	65	14	1	76 - 4 = 72
Independent	198	30	117	45	4	2	74 - 3 = 71
Form of Government							
Mayor-Council	141	24	74	36	7	0	70 - 5 = 65
Council-Manager	501	89	305	87	16	4	79 - 4 = 75
Other	31	4	20	5	1	1	77 - 6 = 71

TABLE 77

COUNTY EVALUATION OF ENVIRONMENTAL QUALITY STANDARDS

	Number Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	104	19	69	13	1	2	85 - 3 = 82
Population Group							
Over 500,000	19	3	15	1	0	0	95 - 0 = 95
250,000-500,000	18	2	12	3	0	1	78 - 6 = 72
100,000-250,000	38	10	21	5	1	1	82 - 5 = 77
50,000-100,000	29	4	21	4	0	0	86 - 0 = 86
Geographic Region							
Northeast	22	3	16	3	0	0	86 - 0 = 86
North Central	25	4	17	4	0	0	84 - 0 = 84
South	32	9	16	5	1	1	78 - 6 = 72
West	25	3	20	1	0	1	92 - 4 = 88
Metro Status							
Metro	77	13	51	10	1	2	83 - 4 = 79
Non Metro	27	6	18	3	0	0	89 - 0 = 89
Form of Government							
Without Administrator	26	6	17	3	0	0	88 - 0 = 88
With Administrator	49	9	32	6	1	1	84 - 4 = 80
Unknown	29	4	20	4	0	1	83 - 3 = 80

TABLE 78

CITY EVALUATION OF TAX INCENTIVES

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	18	5	8	5	0	0	72 - 0 = 72
Population Group							
Over 500,000	0	0	0	-	0	0	- - -
250,000-500,000	0	0	0	-	0	0	- - -
100,000-250,000	2	0	1	1	0	0	50 - 0 = 50
50,000-100,000	3	2	1	0	0	0	100 - 0 = 100
25,000- 50,000	6	1	4	1	0	0	83 - 0 = 83
10,000- 25,000	7	2	2	3	0	0	57 - 0 = 57
Geographic Region							
Northeast	1	0	1	0	0	0	100 - 0 = 100
North Central	12	4	4	4	0	0	67 - 0 = 67
South	2	1	0	1	0	0	50 - 0 = 50
West	3	0	3	0	0	0	100 - 0 = 100
Metro/City Type							
Central	5	3	1	1	0	0	80 - 0 = 80
Suburban	6	0	4	2	0	0	67 - 0 = 67
Independent	7	2	3	2	0	0	71 - 0 = 71
Form of Government							
Mayor-Council	5	2	3	0	0	0	100 - 0 = 100
Council-Manager	13	3	5	5	0	0	62 - 0 = 62
Other	0	0	0	0	0	0	- - -

TABLE 79

COUNTY EVALUATION OF TAX INCENTIVES

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	13	1	7	4	0	1	62 - 8 = 54
Population Group							
Over 500,000	7	1	4	2	0	0	71 - 0 = 71
250,000-500,000	2	0	1	1	0	0	50 - 0 = 50
100,000-250,000	4	0	2	1	0	1	50 - 25 = 25
50,000-100,000	0	0	0	0	0	0	- - -
Geographic Region							
Northeast	1	0	0	1	0	0	0 - 0 = 0
North Central	2	0	1	1	0	0	50 - 0 = 50
South	5	0	3	1	0	1	60 - 20 = 40
West	5	1	3	1	0	0	80 - 0 = 80
Metro Status							
Metro	12	1	6	4	0	1	58 - 8 = 50
Non Metro	1	0	1	0	0	0	100 - 0 = 100
Form of Government							
Without Administrator	2	0	2	0	0	0	100 - 0 = 100
With Administrator	10	1	5	4	0	0	60 - 0 = 60
Unknown	1	0	0	0	0	1	0 -100 =-100

TABLE 80

CITY EVALUATION OF PENALTY CHARGES

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	166	33	79	41	11	2	67 - 8 = 59
Population Group							
Over 500,000	3	1	1	1	0	0	67 - 0 = 67
250,000-500,000	5	0	2	3	0	0	40 - 0 = 40
100,000-250,000	19	3	10	4	1	1	68 - 11 = 57
50,000-100,000	21	1	11	8	1	0	57 - 5 = 52
25,000- 50,000	39	6	19	10	3	1	64 - 10 = 54
10,000- 25,000	79	22	36	15	6	0	73 - 8 = 65
Geographic Region							
Northeast	32	6	13	10	3	0	59 - 9 = 50
North Central	58	13	30	12	1	2	74 - 5 = 69
South	50	9	25	13	3	0	68 - 6 = 62
West	26	5	11	6	4	0	62 - 15 = 47
Metro/City Type							
Central	41	5	21	13	1	1	63 - 5 = 58
Suburban	76	19	33	15	8	1	68 - 12 = 56
Independent	49	9	25	13	2	0	69 - 4 = 65
Form of Government							
Mayor-Council	40	6	18	13	3	0	60 - 8 = 52
Council-Manager	120	26	58	26	8	2	70 - 8 = 62
Other	6	1	3	2	0	0	67 - 0 = 67

TABLE 81

COUNTY EVALUATION OF PENALTY CHARGES

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	25	4	7	11	2	1	44 - 12 = 32
Population Group							
Over 500,000	9	2	3	4	0	0	45 - 0 = 45
250,000-500,000	4	1	1	2	0	0	50 - 0 = 50
100,000-250,000	9	0	2	4	2	1	33 - 22 = 11
50,000-100,000	3	1	1	1	0	0	67 - 0 = 67
Geographic Region							
Northeast	2	1	0	1	0	0	50 - 0 = 50
North Central	6	0	4	1	1	0	67 - 17 = 50
South	8	1	2	3	1	1	38 - 25 = 13
West	9	2	1	6	0	0	33 - 0 = 33
Metro Status							
Metro	21	3	6	9	2	1	43 - 14 = 29
Non Metro	4	1	1	2	0	0	50 - 0 = 50
Form of Government							
Without Administrator	6	2	1	2	1	0	50 - 17 = 33
With Administrator	14	2	4	8	0	0	43 - 0 = 43
Unknown	5	0	2	1	1	1	40 - 40 = 0

TABLE 82

CITY EVALUATION OF MORATORIA

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	150	31	62	34	16	7	62 - 15 = 47
Population Group							
Over 500,000	2	0	2	0	0	0	100 - 0 = 100
250,000-500,000	3	1	1	1	0	0	67 - 0 = 67
100,000-250,000	11	2	5	2	2	0	64 - 18 = 46
50,000-100,000	29	7	12	6	3	1	66 - 14 = 52
25,000- 50,000	33	7	10	10	4	2	52 - 18 = 34
10,000- 25,000	72	14	32	15	7	4	64 - 15 = 49
Geographic Region							
Northeast	35	9	14	8	3	1	66 - 11 = 55
North Central	30	5	12	8	2	3	57 - 17 = 40
South	32	8	14	6	4	0	69 - 13 = 56
West	53	9	22	12	7	3	58 - 19 = 39
Metro/City Type							
Central	28	7	13	4	3	1	71 - 14 = 57
Suburban	93	15	43	21	9	5	62 - 15 = 47
Independent	29	9	6	9	4	1	52 - 17 = 35
Form of Government							
Mayor-Council	31	5	15	8	2	1	65 - 10 = 55
Council-Manager	117	24	47	26	14	6	61 - 17 = 44
Other	2	2	0	0	0	0	100 - 0 = 100

TABLE 83

COUNTY EVALUATION OF MORATORIA

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	23	3	9	10	1	0	52 - 4 = 48
Population Group							
Over 500,000	10	1	3	5	1	0	40 - 10 = 30
250,000-500,000	6	1	3	2	0	0	67 - 0 = 67
100,000-250,000	2	0	1	1	0	0	50 - 0 = 50
50,000-100,000	5	1	2	2	0	0	60 - 0 = 60
Geographic Region							
Northeast	4	1	2	1	0	0	75 - 0 = 75
North Central	2	1	0	1	0	0	50 - 0 = 50
South	10	0	6	4	0	0	60 - 0 = 60
West	7	1	1	4	1	0	29 - 14 = 15
Metro Status							
Metro	19	2	7	9	1	0	47 - 5 = 42
Non Metro	4	1	2	1	0	0	75 - 0 = 75
Form of Government							
Without Administrator	3	2	1	0	0	0	100 - 0 = 100
With Administrator	14	1	5	7	1	0	43 - 7 = 36
Unknown	6	0	3	3	0	0	50 - 0 = 50

TABLE 84

CITY EVALUATION OF ENVIRONMENTAL IMPACT STATEMENTS

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
TOTAL, All Cities	243	18	126	62	28	9	59 - 15 = 44
Population Group							
Over 500,000	2	0	0	2	0	0	-
250,000-500,000	6	0	3	2	0	1	50 - 17 = 33
100,000-250,000	16	2	9	4	1	0	69 - 6 = 63
50,000-100,000	45	5	22	12	5	1	60 - 13 = 47
25,000- 50,000	54	4	30	15	4	1	63 - 9 = 54
10,000- 25,000	120	7	62	27	18	6	58 - 20 = 38
Geographic Region							
Northeast	24	0	12	7	4	1	50 - 21 = 29
North Central	34	1	14	8	6	5	44 - 32 = 12
South	31	0	12	13	5	1	39 - 19 = 20
West	154	17	88	34	13	2	68 - 10 = 58
Metro/City Type							
Central	39	2	20	12	3	2	56 - 13 = 43
Suburban	156	14	84	35	18	5	63 - 14 = 49
Independent	48	2	22	15	7	2	50 - 18 = 32
Form of Government							
Mayor-Council	33	1	13	13	4	2	42 - 18 = 24
Council-Manager	201	17	109	45	23	7	63 - 15 = 48
Other	9	0	4	4	1	0	44 - 11 = 33

TABLE 85

COUNTY EVALUATION OF ENVIRONMENTAL IMPACT STATEMENTS

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
TOTAL, All Counties	40	5	15	12	8	0	51 - 20 = 31
Population Group							
Over 500,000	9	1	5	1	2	0	67 - 22 = 45
250,000-500,000	8	1	2	2	3	0	38 - 38 = 0
100,000-250,000	16	2	5	7	2	0	44 - 13 = 31
50,000-100,000	7	1	3	2	1	0	57 - 14 = 43
Geographic Region							
Northeast	4	0	1	3	0	0	25 - 0 = 25
North Central	9	2	1	4	2	0	33 - 22 = 11
South	6	0	2	2	2	0	33 - 33 = 0
West	21	3	11	3	4	0	67 - 19 = 48
Metro Status							
Metro	31	3	11	10	7	0	45 - 23 = 22
Non Metro	9	2	4	2	1	0	67 - 11 = 56
Form of Government							
Without Administrator	6	1	1	4	0	0	33 - 0 = 33
With Administrator	28	3	14	5	6	0	61 - 21 = 40
Unknown	6	1	0	3	2	0	17 - 33 =-16

TABLE 86

CITY EVALUATION OF LAW SUITS

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Cities	74	12	32	16	11	3	59 - 19 = 40
Population Group							
Over 500,000	1	0	1	0	0	0	100 - 0 = 100
250,000-500,000	3	2	1	0	0	0	100 - 0 = 100
100,000-250,000	4	0	4	0	0	0	100 - 0 = 100
50,000-100,000	9	0	6	2	1	0	67 - 11 = 56
25,000- 50,000	22	2	8	6	5	1	45 - 27 = 28
10,000- 25,000	35	8	12	8	5	2	57 - 20 = 37
Geographic Region							
Northeast	21	1	7	8	3	2	38 - 24 = 14
North Central	23	6	8	5	3	1	61 - 17 = 44
South	9	3	4	1	1	0	78 - 11 = 67
West	21	2	13	2	4	0	71 - 19 = 52
Metro/City Type							
Central	13	2	10	1	0	0	92 - 0 = 92
Suburban	45	6	17	12	9	1	51 - 22 = 29
Independent	16	4	5	3	2	2	56 - 25 = 31
Form of Government							
Mayor-Council	15	3	8	3	1	0	73 - 7 = 66
Council-Manager	55	9	23	10	10	3	58 - 24 = 34
Other	4	0	1	3	0	0	25 - 0 = 25

TABLE 87

COUNTY EVALUATION OF LAW SUITS

	Number of Users Reporting (A)	Very Effective (1)	Effective (2)	Neutral (3)	In-Effective (4)	Very In-Effective (5)	Evaluated Effectiveness Index
Total, All Counties	18	5	8	1	2	2	72 - 22 = 50
Population Group							
Over 500,000	7	3	2	0	1	1	71 - 29 = 42
250,000-500,000	3	0	1	1	0	1	33 - 33 = 0
100,000-250,000	6	1	4	0	1	0	83 - 17 = 66
50,000-100,000	2	1	1	0	0	0	100 - 0 = 100
Geographic Region							
Northeast	2	0	0	1	1	0	0 - 50 = -50
North Central	5	2	3	0	0	0	100 - 0 = 100
South	7	2	4	0	1	0	86 - 14 = 72
West	4	1	1	0	0	2	50 - 50 = 0
Metro Status							
Metro	14	4	6	1	1	2	71 - 21 = 50
Non Metro	4	1	2	0	1	0	75 - 25 = 50
Form of Government							
Without Administrator	2	0	1	0	1	0	50 - 50 = 0
With Administrator	12	4	4	1	1	2	67 - 25 = 42
Unknown	4	1	3	0	0	0	100 - 0 = 100

TABLE 88

EVALUATED EFFECTIVENESS INDEX SCORES* FOR CITIES

	Agency+	Citizen Board Created+	Citizen Board Expanded+	Inter-Govern-mental Arrange-ments‡	Land Use‡	Stand-ards‡	Incen-tives+	Penalty Charges+	Mora-toria+	Environ-mental Impact State-ments+	Law Suits+
Total	70	49	27	46	87	73	72	59	47	43	40
Population Group											
Over 500,000	100	80	**	38	72	75	**	**	**	**	**
250,000-500,000	86	63	70	62	86	73	**	40	**	33	**
100,000-250,000	71	57	18	40	81	80	**	57	46	63	**
50,000-100,000	70	34	19	45	88	76	**	52	52	47	56
25,000- 50,000	64	40	8	49	84	75	83	54	34	54	28
10,000- 25,000	88	57	35	46	88	69	57	65	49	38	37
Geographic Region											
Northeast	71	42	24	49	89	74	**	50	55	29	14
North Central	73	62	29	47	87	69	67	69	40	12	44
South	68	58	31	45	83	70	**	62	56	20	67
West	68	34	22	45	87	76	**	47	39	58	52
Metro/City TYpe											
Central	74	46	18	48	84	76	80	58	57	43	92
Suburban	66	47	25	44	88	72	67	56	47	49	29
Independent	74	58	33	49	87	71	71	65	35	32	31
Form of Government											
Mayor-Council	78	64	36	47	80	65	100	52	55	24	66
Council Manager	70	38	24	47	89	75	62	62	44	48	34
Other	25	73	50	43	88	71	**	67	**	33	**

*Evaluated Effectiveness Index Score is defined as the proportion considering the strategy effective minus the proportion considering it ineffective.

+Scores based on users of particular strategy, only.

‡ Scores are based on all respondents

**Less than five respondents in category, and thus considered too few to calculate meaningful index scores.

TABLE 89

MAJOR FACTORS CONTRIBUTING TO DEVELOPMENT OF CITY ENVIRONMENTAL PROGRAMS

	NO. OF REPORTING (A)	ENVIRONMENTAL DETERIORATN		CONCERNED MUNICIPAL OFFICIALS		ENABLING LEGISLATION		AVAILABLE EXPERTISE		ST OR FED FINANCIAL INCENTIVES		PUBLIC SUPPORT		ACTIVE ENVIRONMENT/ CIVIC GRPS		STATE OR FEDERAL REQUIREMENTS		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	901	266	30	677	75	250	28	167	19	343	38	454	50	395	44	613	68	22	2
POPULATION GROUP																			
OVER 500,000	10	5	50	10	100	6	60	4	40	6	60	10	100	6	60	6	60	0	0
250,000-500,000	17	7	41	11	65	6	35	5	29	9	53	6	35	9	53	12	71	2	12
100,000-250,000	54	23	43	45	83	20	37	15	28	24	44	34	63	32	59	39	72	4	7
50,000-100,000	128	45	35	97	76	34	27	24	19	39	30	69	54	71	55	92	72	2	2
25,000- 50,000	228	79	35	176	77	54	24	46	20	79	35	111	49	105	46	139	61	9	4
10,000- 25,000	404	107	23	338	73	130	28	73	18	186	40	224	48	172	37	325	76	5	1
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	200	64	32	149	75	57	29	40	20	78	39	100	50	110	55	120	60	5	3
NORTH CENTRAL	258	71	28	204	79	46	18	61	24	106	41	127	49	114	44	166	64	5	2
SOUTH	205	58	28	149	73	56	27	38	19	104	51	105	51	74	36	147	72	5	2
WEST	238	73	31	175	74	91	38	28	12	55	23	122	51	97	41	180	76	7	3
METRO/CITY TYPE																			
CENTRAL	168	65	39	131	78	58	35	41	24	81	48	88	52	83	49	120	71	6	4
SUBURBAN	475	136	29	370	76	134	28	83	17	128	27	256	54	223	47	302	64	13	3
INDEPENDENT	258	65	25	176	68	58	22	43	17	134	52	110	43	89	34	191	74	3	1
FORM OF GOVERNMENT																			
MAYOR-COUNCIL	206	60	29	157	76	54	26	50	24	94	46	101	49	93	45	128	62	6	3
COUNCIL-MANAGER	643	189	29	482	75	182	28	107	17	229	36	326	51	272	42	454	71	15	2
COMMISSION	27	10	37	17	63	6	22	6	22	14	52	12	44	15	56	17	63	1	4
TOWN MEETING	18	6	33	15	83	6	33	1	6	3	17	10	56	11	61	10	56	0	0
REP. TOWN MEETING	7	1	14	6	86	2	29	3	43	3	43	5	71	4	57	4	57	0	0

TABLE 90

MAJOR FACTORS CONTRIBUTING TO DEVELOPMENT OF COUNTY ENVIRONMENTAL PROGRAMS

	NO. OF REPORTING (A)	ENVIRONM-ENTAL DE-TERIORATN		CONCERNED MUNICIPAL OFFICIALS		ENABLING LEGISLA-TION		AVAILABLE EXPERTISE		ST OR FED FINANCIAL INCENTIVES		PUBLIC SUPPORT		ACTIVE EN-VIRONMENT/ CIVIC GRPS		STATE OR FEDERAL RE-QUIREMENTS		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	136	56	41	91	67	62	46	37	27	70	51	74	54	75	56	105	77	4	3
POPULATION GROUP																			
OVER 500,000	24	15	63	20	83	16	67	12	50	17	71	18	75	17	71	21	88	1	4
250,000-500,000	22	9	41	15	68	13	59	9	41	14	64	10	45	15	68	18	82	1	5
100,000-250,000	45	21	47	34	76	17	38	10	22	21	47	25	56	25	56	27	60	0	0
50,000-100,000	45	11	24	22	49	16	36	6	13	18	40	21	47	22	49	39	87	2	4
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	27	12	44	13	48	15	56	8	30	15	56	10	37	17	63	23	85	2	7
NORTH CENTRAL	40	11	28	26	65	14	35	9	23	16	40	19	48	17	43	30	75	0	0
SOUTH	39	17	44	28	72	18	46	11	28	22	56	28	72	25	64	28	72	0	0
WEST	30	16	53	24	80	15	50	9	30	17	57	17	57	20	67	24	80	2	7
METRO STATUS																			
METRO	96	42	44	65	72	46	48	32	33	56	58	55	57	60	63	72	75	2	2
NON METRO	40	14	35	22	55	16	40	5	13	14	35	19	48	19	48	33	83	2	5
FORM OF GOVERNMENT																			
WITHOUT ADMINISTRATOR	38	12	32	22	58	15	39	10	26	19	50	18	47	15	39	31	82	1	3
WITH ADMINISTRATOR	62	34	55	49	79	35	56	21	34	39	63	38	61	46	74	50	81	3	5
UNKNOWN	36	10	28	20	56	12	33	6	17	12	33	18	50	18	50	24	67	0	0

TABLE 91.

FREQUENCY OF CITY CONTACT WITH EPA

	NO. OF CITIES REPORTING (A)	(1) VERY FREQUENT #	%	(2) FREQUENT		(3) INFRE-QUENT		(4) VERY IN-FREQUENT		(5) NONE	
TOTAL, ALL CITIES	1016	166	16	315	31	217	21	151	15	167	16
POPULATION GROUP											
OVER 500,000	10	4	40	4	40	1	10	0	0	1	10
250,000-500,000	18	8	44	6	33	3	17	1	6	0	0
100,000-249,999	60	12	20	27	45	10	17	6	10	5	8
50,000- 99,999	132	25	19	43	33	27	20	17	13	20	15
25,000- 49,999	251	30	12	73	29	56	22	43	17	49	20
10,000- 24,999	545	87	16	162	30	120	22	84	15	92	17
5,000- 9,999	0	0	0	0	0	0	0	0	0	0	0
2,500- 4,999	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	226	34	15	60	27	54	24	35	15	43	19
NORTH CENTRAL	301	53	18	92	31	68	23	46	15	42	14
SOUTH	245	52	21	105	43	44	18	26	11	18	7
WEST	244	27	11	58	24	51	21	44	18	64	26
METRO/CITY TYPE											
CENTRAL	185	47	25	81	44	30	16	16	9	11	6
SUBURBAN	535	55	10	134	25	123	23	87	16	136	25
INDEPENDENT	296	64	22	100	34	64	22	48	16	20	7
FORM OF GOVERNMENT											
MAYOR-COUNCIL	241	48	20	83	34	53	22	33	14	24	10
COUNCIL-MANAGER	719	111	15	212	29	153	21	109	15	134	19
COMMISSION	29	1	3	10	34	6	21	8	28	4	14
TOWN MEETING	21	5	24	9	43	3	14	1	5	3	14
REP. TOWN MEETING	6	1	17	1	17	2	33	0	0	2	33

TABLE 92

EVALUATION OF CITY CONTACTS WITH EPA-CENTRAL OFFICE

	NO. OF REPORTING (A)	VERY SATIS =1	SATIS =2	NEUTRL =3	UN- SATIS =4	VERY UN- SATIS =5	WEIGHTED MEAN
TOTAL, ALL CITIES	566	61	192	262	28	23	2.5
POPULATION GROUP							
OVER 500,000	7	3	2	1	0	1	2.1
250,000-500,000	12	0	8	3	1	0	2.4
100,000-250,000	36	1	16	15	3	1	2.6
50,000-100,000	78	12	25	35	2	4	2.5
25,000- 50,000	135	9	48	67	6	5	2.6
10,000- 25,000	298	36	93	141	16	12	2.5
5,000- 10,000	0	0	0	0	0	0	.0
2,500- 5,000	0	0	0	0	0	0	.0
UNDER 2,500	0	0	0	0	0	0	.0
GEOGRAPHIC REGION							
NORTHEAST	115	16	38	51	4	6	2.5
NORTH CENTRAL	175	18	66	74	9	8	2.5
SOUTH	167	19	58	78	7	5	2.5
WEST	109	8	30	59	8	4	2.7
METRO/CITY TYPE							
CENTRAL	119	15	48	46	5	5	2.4
SUBURBAN	258	19	78	134	16	11	2.7
INDEPENDENT	189	27	66	82	7	7	2.4
FORM OF GOVERNMENT							
MAYOR-COUNCIL	157	20	57	66	8	6	2.5
COUNCIL-MANAGER	375	40	119	187	16	13	2.5
COMMISSION	20	0	12	4	2	2	2.7
TOWN MEETING	11	0	3	5	2	1	3.0
REP. TOWN MEETING	3	1	1	0	0	1	2.6

TABLE 93

EVALUATION OF CITY CONTACTS WITH EPA-REGIONAL OFFICE

	NO. OF REPORTING (A)	VERY SATIS =1	SATIS =2	NEUTRL =3	UN- SATIS =4	VERY UN= SATIS =5	WEIGHTED MEAN
TOTAL, ALL CITIES	727	100	304	259	41	23	2.4
POPULATION GROUP							
OVER 500,000	8	3	5	0	0	0	1.6
250,000-500,000	16	0	13	3	0	0	2.1
100,000-250,000	48	5	24	13	5	1	2.4
50,000-100,000	95	15	40	32	4	4	2.3
25,000- 50,000	170	22	70	63	9	6	2.4
10,000- 25,000	390	55	152	148	23	12	2.4
5,000- 10,000	0	0	0	0	0	0	.0
2,500- 5,000	0	0	0	0	0	0	.0
UNDER 2,500	0	0	0	0	0	0	.0
GEOGRAPHIC REGION							
NORTHEAST	140	20	57	52	5	6	2.4
NORTH CENTRAL	227	26	108	74	15	4	2.4
SOUTH	215	35	87	75	9	9	2.4
WEST	145	19	52	58	12	4	2.5
METRO/CITY TYPE							
CENTRAL	157	25	74	46	9	3	2.3
SUBURBAN	317	32	123	133	17	12	2.5
INDEPENDENT	253	43	107	80	15	8	2.3
FORM OF GOVERNMENT							
MAYOR-COUNCIL	187	28	82	64	7	6	2.3
COUNCIL-MANAGER	498	71	199	185	27	16	2.4
COMMISSION	22	1	13	4	4	0	2.5
TOWN MEETING	16	0	7	6	3	0	2.7
REP. TOWN MEETING	4	0	3	0	0	1	2.7

TABLE 94

EVALUATION OF COUNTY CONTACTS WITH EPA-CENTRAL OFFICE

	NO. OF REPORTING (A)	VERY SATIS =1	SATIS =2	NEUTRL =3	UN- SATIS =4	VERY UN- SATIS =5	WEIGHTED MEAN
TOTAL, ALL COUNTIES	78	8	21	43	5	1	2.6
POPULATION GROUP							
OVER 500,000	16	2	4	7	3	0	2.6
250,000-500,000	14	2	3	8	1	0	2.5
100,000-250,000	22	3	10	9	0	0	2.2
50,000-100,000	26	1	4	19	1	1	2.8
25,000- 50,000	0	0	0	0	0	0	.0
10,000- 25,000	0	0	0	0	0	0	.0
5,000- 10,000	0	0	0	0	0	0	.0
2,500- 5,000	0	0	0	0	0	0	.0
UNDER 2,500	0	0	0	0	0	0	.0
GEOGRAPHIC REGION							
NORTHEAST	17	0	3	11	3	0	3.0
NORTH CENTRAL	24	3	5	14	1	1	2.6
SOUTH	25	2	9	14	0	0	2.4
WEST	12	3	4	4	1	0	2.2
METRO STATUS							
METRO	57	7	19	27	4	0	2.4
NON METRO	21	1	2	16	1	1	2.9
FORM OF GOVERNMENT							
WITHOUT ADMINISTRATOR	26	3	7	16	0	0	2.5
WITH ADMINISTRATOR	31	5	8	14	3	1	2.5
UNKNOWN	21	0	6	13	2	0	2.8

TABLE 95

EVALUATION OF COUNTY CONTACTS WITH EPA-REGIONAL OFFICE

	NO. OF REPORTING (A)	VERY SATIS =1	SATIS =2	NEUTRAL =3	UN- SATIS =4	VERY UN= SATIS =5	WEIGHTED MEAN
TOTAL, ALL COUNTIES	107	15	39	42	6	5	2.5
POPULATION GROUP							
OVER 500,000	21	3	9	7	2	0	2.3
250,000-500,000	19	4	7	6	1	1	2.3
100,000-250,000	32	5	15	9	1	2	2.3
50,000-100,000	35	3	8	20	2	2	2.7
25,000- 50,000	0	0	0	0	0	0	.0
10,000- 25,000	0	0	0	0	0	0	.0
5,000- 10,000	0	0	0	0	0	0	.0
2,500- 5,000	0	0	0	0	0	0	.0
UNDER 2,500	0	0	0	0	0	0	.0
GEOGRAPHIC REGION							
NORTHEAST	26	2	11	10	2	1	2.5
NORTH CENTRAL	30	3	10	13	2	2	2.6
SOUTH	29	4	12	11	1	1	2.4
WEST	22	6	6	8	1	1	2.3
METRO STATUS							
METRO	76	12	33	24	4	3	2.3
NON METRO	31	3	6	18	2	2	2.8
FORM OF GOVERNMENT							
WITHOUT ADMINISTRATOR	35	5	11	16	2	1	2.5
WITH ADMINISTRATOR	44	9	17	13	3	2	2.3
UNKNOWN	28	1	11	13	1	2	2.7

TABLE 96.

CITY PROPOSED FEDERAL ENVIRONMENTAL IMPACT STATEMENT

	NO. OF REPORTING (A)	HAVE WRITTEN EIS NO. B	% A	HAVE NOT WRITTEN EIS NO.	% A
TOTAL, ALL CITIES	1068	345	32	723	68
POPULATION GROUP					
OVER 500,000	9	9	100	0	0
250,000-500,000	17	12	71	5	29
100,000-250,000	61	36	59	25	41
50,000-100,000	135	49	36	86	64
25,000- 50,000	271	82	30	189	70
10,000- 25,000	575	157	27	418	73
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	241	49	20	192	80
NORTH CENTRAL	315	112	36	203	64
SOUTH	261	107	41	154	59
WEST	251	77	31	174	69
METRO/CITY TYPE					
CENTRAL	187	103	55	84	45
SUBURBAN	567	117	21	450	79
INDEPENDENT	314	125	40	189	60
FORM OF GOVERNMENT					
MAYOR-COUNCIL	266	82	31	184	69
COUNCIL-MANAGER	739	251	34	488	66
COMMISSION	32	8	25	24	75
TOWN MEETING	24	3	13	21	88
REP. TOWN MEETING	7	1	14	6	86

TABLE 97.

FEDERAL IMPACT STATEMENTS REVIEWED BY CITIES

	NO. OF REPORTING (A)	HAVE REVIEWED EIS NO. B	HAVE REVIEWED EIS % A	HAVE NOT REVIEWED EIS NO.	HAVE NOT REVIEWED EIS % A
TOTAL, ALL CITIES	1032	231	22	801	78
POPULATION GROUP					
OVER 500,000	9	4	44	5	56
250,000-500,000	15	7	47	8	53
100,000-250,000	61	27	44	34	56
50,000-100,000	139	34	24	105	76
25,000- 50,000	259	57	22	202	78
10,000- 25,000	549	102	19	447	81
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	230	54	23	176	77
NORTH CENTRAL	305	66	22	239	78
SOUTH	253	58	23	195	77
WEST	244	53	22	191	78
METRO/CITY TYPE					
CENTRAL	186	66	35	120	65
SUBURBAN	546	104	19	442	81
INDEPENDENT	300	61	20	239	80
FORM OF GOVERNMENT					
MAYOR-COUNCIL	253	62	25	191	75
COUNCIL-MANAGER	721	154	21	567	79
COMMISSION	32	10	31	22	69
TOWN MEETING	20	4	20	16	80
REP. TOWN MEETING	6	1	17	5	83

TABLE 98

TYPE OF CITY PROJECT WITH FEDERAL ENVIRONMENTAL IMPACT STATEMENTS

	HAVE WRITTEN EIS (B)	AIRPORT		ELECTRIC POWER		FLOOD CONTROL		ROADS		URBAN RENEWAL		OTHER	
		NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	345	100	29	14	4	53	15	130	38	107	31	177	51
POPULATION GROUP													
OVER 500,000	9	3	33	1	11	0	0	5	56	4	44	6	67
250,000-500,000	12	4	33	0	0	3	25	9	75	7	58	4	33
100,000-250,000	36	9	25	0	0	2	6	23	64	19	53	17	47
50,000-100,000	49	16	33	2	4	11	22	24	49	10	20	28	57
25,000- 50,000	82	20	24	1	1	11	13	25	30	26	32	39	48
10,000- 25,000	157	48	31	10	6	26	17	44	28	41	26	83	53
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	49	5	10	2	4	13	27	20	41	18	37	24	49
NORTH CENTRAL	112	29	26	6	5	15	13	47	42	36	32	53	47
SOUTH	107	39	36	2	2	15	14	36	34	39	36	57	53
WEST	77	27	35	4	5	10	13	27	35	14	18	43	56
METRO/CITY TYPE													
CENTRAL	103	34	33	4	4	14	14	61	59	41	40	55	53
SUBURBAN	117	12	10	3	3	22	19	39	33	21	18	65	56
INDEPENDENT	125	54	43	7	6	17	14	30	24	45	36	57	46
FORM OF GOVERNMENT													
MAYOR-COUNCIL	82	20	24	5	6	16	20	36	44	35	43	38	46
COUNCIL-MANAGER	251	76	30	9	4	34	14	89	35	67	27	133	53
COMMISSION	8	3	38	0	0	1	13	4	50	4	50	3	38
TOWN MEETING	3	1	33	0	0	1	33	1	33	1	33	2	67
REP. TOWN MEETING	1	0	0	0	0	1	100	0	0	0	0	1	100

TABLE 99

TYPES OF PROJECTS WHERE FEDERAL ENVIRONMENTAL IMPACT STATEMENTS ARE REVIEWED BY CITIES

	HAVE REVIEWED EIS (B)	AIRPORT		ELECTRIC POWER		FLOOD CONTROL		ROADS		URBAN RENEWAL		OTHER	
		NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	231	53	23	18	8	78	34	125	54	50	22	55	24
POPULATION GROUP													
OVER 500,000	4	2	50	2	50	3	75	3	75	1	25	1	25
250,000-500,000	7	1	14	0	0	4	57	2	29	3	43	3	43
100,000-250,000	27	8	30	4	15	5	19	21	78	8	30	6	22
50,000-100,000	34	8	24	0	0	7	21	16	47	5	15	9	26
25,000- 50,000	57	12	21	5	9	18	32	31	54	13	23	11	19
10,000- 25,000	102	22	22	7	7	41	40	52	51	20	20	25	25
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	54	10	19	5	9	21	39	26	48	11	20	12	22
NORTH CENTRAL	66	11	17	5	8	27	41	39	59	15	23	13	20
SOUTH	58	21	36	2	3	17	29	33	57	15	26	18	31
WEST	53	11	21	6	11	13	25	27	51	9	17	12	23
METRO/CITY TYPE													
CENTRAL	66	19	29	7	11	17	26	43	65	15	23	14	21
SUBURBAN	104	15	14	5	5	38	37	52	50	19	18	28	27
INDEPENDENT	61	19	31	6	10	23	38	30	49	16	26	13	21
FORM OF GOVERNMENT													
MAYOR-COUNCIL	62	13	21	6	10	29	47	30	48	19	31	18	29
COUNCIL-MANAGER	154	36	23	10	6	42	27	88	57	28	18	35	23
COMMISSION	10	3	30	2	20	4	40	6	60	2	20	0	0
TOWN MEETING	4	1	25	0	0	2	50	1	25	1	25	1	25
REP. TOWN MEETING	1	0	0	0	0	1	100	0	0	0	0	1	100

TABLE 100

AUTHORS OF FEDERAL ENVIRONMENTAL IMPACT STATEMENTS ON CITY PROJECTS

	HAVE WRITTEN EIS (B)	CHIEF EXECUTIVES OFFICE		ENVIRONMENTAL DEPARTMENT		OTHER DEPT(S)		OUTSIDE CONSULTANT		ANOTHER GOVERNMENTAL AGENCY		OTHER	
		NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	345	118	34	22	6	123	36	142	41	60	17	37	11
POPULATION GROUP													
OVER 500,000	9	0	0	2	22	8	89	1	11	1	11	1	11
250,000-500,000	12	3	25	0	0	9	75	5	42	3	25	1	8
100,000-250,000	36	6	17	5	14	20	56	18	50	11	31	6	17
50,000-100,000	49	7	14	4	8	21	43	18	37	8	16	5	10
25,000- 50,000	82	25	30	4	5	32	39	30	37	11	13	9	11
10,000- 25,000	157	77	49	7	4	33	21	70	45	26	17	15	10
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	49	21	43	4	8	13	27	18	37	12	24	8	16
NORTH CENTRAL	112	44	39	10	9	41	37	38	34	13	12	7	6
SOUTH	107	35	33	4	4	35	33	61	57	24	22	10	9
WEST	77	18	23	4	5	34	44	25	32	11	14	12	16
METRO/CITY TYPE													
CENTRAL	103	19	18	8	8	59	57	41	40	24	23	11	11
SUBURBAN	117	44	38	9	8	28	24	42	36	15	13	14	12
INDEPENDENT	125	55	44	5	4	36	29	59	47	21	17	12	10
FORM OF GOVERNMENT													
MAYOR-COUNCIL	82	21	26	10	12	28	34	32	39	16	20	8	10
COUNCIL-MANAGER	251	94	37	10	4	91	36	105	42	41	16	25	10
COMMISSION	8	1	13	1	13	4	50	4	50	1	13	3	38
TOWN MEETING	3	1	33	0	0	0	0	1	33	2	67	1	33
REP. TOWN MEETING	1	1	100	1	100	0	0	0	0	0	0	0	0

TABLE 101

COUNTY PREPARED FEDERAL ENVIRONMENTAL IMPACT STATEMENTS

	NO. OF REPORTING (A)	HAVE WRITTEN EIS NO. B	% A	HAVE NOT WRITTEN EIS NO.	% A
TOTAL, ALL COUNTIES	159	54	34	105	66
POPULATION GROUP					
OVER 500,000	24	14	58	10	42
250,000-500,000	24	12	50	12	50
100,000-250,000	50	16	32	34	68
50,000-100,000	61	12	20	49	80
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	37	6	16	31	84
NORTH CENTRAL	41	16	39	25	61
SOUTH	49	15	31	34	69
WEST	32	17	53	15	47
METRO STATUS					
METRO	107	44	41	63	59
NON METRO	52	10	19	42	81
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	50	11	22	39	78
WITH ADMINISTRATOR	66	32	48	34	52
UNKNOWN	43	11	26	32	74

TABLE 101

COUNTY PREPARED FEDERAL ENVIRONMENTAL IMPACT STATEMENTS

	NO. OF REPORTING (A)	HAVE WRITTEN EIS		HAVE NOT WRITTEN EIS	
		NO. B	% A	NO.	% A
TOTAL, ALL COUNTIES	159	54	34	105	66
POPULATION GROUP					
OVER 500,000	24	14	58	10	42
250,000-500,000	24	12	50	12	50
100,000-250,000	50	16	32	34	68
50,000-100,000	61	12	20	49	80
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	37	6	16	31	84
NORTH CENTRAL	41	16	39	25	61
SOUTH	49	15	31	34	69
WEST	32	17	53	15	47
METRO STATUS					
METRO	107	44	41	63	59
NON METRO	52	10	19	42	81
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	50	11	22	39	78
WITH ADMINISTRATOR	66	32	48	34	52
UNKNOWN	43	11	26	32	74

TABLE 102.

FEDERAL IMPACT STATEMENTS REVIEWED BY COUNTIES

	NO. OF REPORTING (A)	HAVE REVIEWED EIS NO. B	HAVE REVIEWED EIS % A	HAVE NOT REVIEWED EIS NO.	HAVE NOT REVIEWED EIS % A
TOTAL, ALL COUNTIES	160	59	37	101	63
POPULATION GROUP					
OVER 500,000	25	14	56	11	44
250,000-500,000	24	13	54	11	46
100,000-250,000	51	20	39	31	61
50,000-100,000	60	12	20	48	80
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	38	19	50	19	50
NORTH CENTRAL	42	12	29	30	71
SOUTH	49	12	24	37	76
WEST	31	16	52	15	48
METRO STATUS					
METRO	108	44	41	64	59
NON METRO	52	15	29	37	71
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	50	19	38	31	62
WITH ADMINISTRATOR	66	26	39	40	61
UNKNOWN	44	14	32	30	68

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TABLE 103

TYPE OF COUNTY PROJECTS WITH FEDERAL ENVIRONMENTAL IMPACT STATEMENTS

	HAVE WRITTEN EIS (B)	AIRPORT		ELECTRIC POWER		FLOOD CONTROL		ROADS		URBAN RENEWAL		OTHER	
		NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	54	16	30	1	2	13	24	25	46	5	9	24	44
POPULATION GROUP													
OVER 500,000	14	7	50	0	0	6	43	7	50	2	14	9	64
250,000-500,000	12	1	8	0	0	2	17	6	50	1	8	6	50
100,000-250,000	16	5	31	0	0	4	25	5	31	2	13	7	44
50,000-100,000	12	3	25	1	8	1	8	7	58	0	0	2	17
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	6	2	33	0	0	1	17	2	33	0	0	2	33
NORTH CENTRAL	16	3	19	0	0	5	31	11	69	2	13	6	38
SOUTH	15	5	33	0	0	3	20	5	33	2	13	9	60
WEST	17	6	35	1	6	4	24	7	41	1	6	7	41
METRO STATUS													
METRO	44	15	34	0	0	12	27	19	43	5	11	21	48
NON METRO	10	1	10	1	10	1	10	6	60	0	0	3	30
FORM OF GOVERNMENT													
WITHOUT ADMINISTRATOR	11	5	45	0	0	5	45	5	45	3	27	5	45
WITH ADMINISTRATOR	32	9	28	1	3	7	22	12	38	1	3	16	50
UNKNOWN	11	2	18	0	0	1	9	8	73	1	9	3	27

TABLE 104

TYPE OF PROJECTS WHERE FEDERAL ENVIRONMENTAL IMPACT STATEMENTS ARE REVIEWED BY COUNTIES

	HAVE REVIEWED EIS	AIRPORT		ELECTRIC POWER		FLOOD CONTROL		ROADS		URBAN RENEWAL		OTHER	
	(B)	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	59	24	41	14	24	26	44	41	69	10	17	21	36
POPULATION GROUP													
OVER 500,000	14	8	57	2	14	8	57	10	71	2	14	8	57
250,000-500,000	13	4	31	5	38	9	69	8	62	2	15	4	31
100,000-250,000	20	8	40	5	25	5	25	14	70	6	30	5	25
50,000-100,000	12	4	33	2	17	4	33	9	75	0	0	4	33
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	19	5	26	7	37	7	37	12	63	3	16	4	21
NORTH CENTRAL	12	5	42	2	17	5	42	8	67	2	17	4	33
SOUTH	12	8	67	3	25	3	25	10	83	4	33	6	50
WEST	16	6	38	2	13	11	69	11	69	1	6	7	44
METRO STATUS													
METRO	44	19	43	10	23	22	50	30	68	10	23	17	39
NON METRO	15	5	33	4	27	4	27	11	73	0	0	4	27
FORM OF GOVERNMENT													
WITHOUT ADMINISTRATOR	19	6	32	6	32	7	37	12	63	5	26	5	26
WITH ADMINISTRATOR	26	13	50	4	15	13	50	18	69	3	12	12	46
UNKNOWN	14	5	36	4	29	6	43	11	79	2	14	4	29

TABLE 105

AUTHORS OF FEDERAL ENVIRONMENTAL IMPACT STATEMENTS ON COUNTY PROJECTS

	HAVE WRITTEN EIS (B)	CHIEF EXECUTIVES OFFICE		ENVIRONMENTAL DEPARTMENT		OTHER DEPT(S)		OUTSIDE CONSULTANT		ANOTHER GOVERNMENTAL AGENCY		OTHER	
		NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	54	6	11	15	28	22	41	14	26	5	9	9	17
POPULATION GROUP													
OVER 500,000	14	1	7	5	36	9	64	5	36	1	7	1	7
250,000-500,000	12	1	8	3	25	7	58	2	17	2	17	4	33
100,000-250,000	16	4	25	5	31	4	25	3	19	2	13	1	6
50,000-100,000	12	0	0	2	17	2	17	4	33	0	0	3	25
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	6	1	17	2	33	2	33	1	17	1	17	0	0
NORTH CENTRAL	16	1	6	4	25	5	31	4	25	3	19	3	15
SOUTH	15	4	27	3	20	5	33	5	33	1	7	4	27
WEST	17	0	0	6	35	10	59	4	24	0	0	2	12
METRO STATUS													
METRO	44	6	14	12	27	20	45	11	25	5	11	8	18
NON METRO	10	0	0	3	30	2	20	3	30	0	0	1	10
FORM OF GOVERNMENT													
WITHOUT ADMINISTRATOR	11	2	18	4	36	3	27	2	18	1	9	4	36
WITH ADMINISTRATOR	32	3	9	10	31	17	53	9	28	3	9	3	9
UNKNOWN	11	1	9	1	9	2	18	3	27	1	9	2	18

TABLE 106

EFFECT OF FEDERAL ENVIRONMENTAL IMPACT STATEMENTS PREPARED BY CITIES

	HAVE WTITTEN EIS (A)	PROJECT IMPRVEMNT		CITIZEN PARTICIP		CONSUMED STAFF TIME		DELAYED PROJECT		KILLED PROJECT		NO EFFECT	
		#	%										
TOTAL, ALL CITIES	345	65	19	60	17	154	45	155	45	17	5	104	30
POPULATION GROUP													
OVER 500,000	9	4	44	3	33	5	55	4	44	0	0	1	11
250,000-500,000	12	5	42	4	33	8	67	9	75	1	8	2	17
100,000-249,999	36	7	19	11	31	20	56	20	56	1	3	9	25
50,000- 99,999	49	10	20	11	22	29	59	23	47	3	6	10	20
25,000- 49,999	82	12	15	12	15	34	41	37	45	5	6	30	37
10,000- 24,999	157	27	17	19	12	58	37	62	39	7	4	52	33
5,000- 9,999	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 4,999	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	49	9	18	10	20	20	41	16	33	3	6	18	37
NORTH CENTRAL	112	17	15	13	12	47	42	46	41	5	4	37	33
SOUTH	107	19	18	18	17	48	45	50	47	6	6	32	30
WEST	77	20	26	19	25	39	51	43	56	3	4	17	22
METRO/CITY TYPE													
CENTRAL	103	22	21	27	26	58	56	57	55	5	5	23	22
SUBURBAN	117	19	16	17	15	49	42	43	37	7	6	45	38
INDEPENDENT	125	24	19	16	13	47	38	55	44	5	4	36	29
FORM OF GOVERNMENT													
MAYOR-COUNCIL	82	17	21	13	16	36	44	34	41	8	10	21	26
COUNCIL-MANAGER	251	46	18	43	17	114	45	116	46	8	3	78	31
COMMISSION	8	2	25	3	38	3	38	4	50	1	13	3	38
TOWN MEETING	3	0	0	1	33	1	33	1	33	0	0	1	33
REP. TOWN MEETING	1	0	0	0	0	0	0	0	0	0	0	1	100

TABLE 107

EFFECT OF FEDERAL ENVIRONMENTAL IMPACT STATEMENTS REVIEWED BY CITIES

	HAVE REVIEWED EIS (A)	PROJECT IMPRVEMNT		CITIZEN PARTICIP		CONSUMED STAFF TIME		DELAYED PROJECT		KILLED PROJECT		NO EFFECT	
		#	%										
TOTAL, ALL CITIES	231	65	28	59	26	92	40	99	43	16	7	70	30
POPULATION GROUP													
OVER 500,000	4	2	50	1	25	3	75	1	25	0	0	1	25
250,000-500,000	7	3	43	3	43	5	71	3	43	0	0	1	14
100,000-249,999	27	9	33	10	37	17	63	16	59	2	7	6	22
50,000- 99,999	34	8	24	8	24	17	50	17	50	3	9	9	26
25,000- 49,999	57	16	28	16	28	21	37	27	47	4	7	18	32
10,000- 24,999	102	27	26	21	21	29	28	35	34	7	7	35	34
5,000- 9,999	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 4,999	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION													
NORTHEAST	54	8	15	12	22	15	28	20	37	6	11	19	35
NORTH CENTRAL	66	19	29	15	23	27	41	26	39	3	5	22	33
SOUTH	58	21	36	17	29	26	45	22	38	5	9	17	29
WEST	53	17	32	15	28	24	45	31	58	2	4	12	23
METRO/CITY TYPE													
CENTRAL	66	18	27	21	32	39	59	34	52	5	8	15	23
SUBURBAN	104	27	26	23	22	36	35	35	34	10	10	36	35
INDEPENDENT	61	20	33	15	25	17	28	30	49	1	2	19	31
FORM OF GOVERNMENT													
MAYOR-COUNCIL	62	19	31	10	16	20	32	19	31	7	11	23	37
COUNCIL-MANAGER	154	43	28	45	29	67	44	75	49	9	6	41	27
COMMISSION	10	3	30	3	30	4	40	3	30	0	0	4	40
TOWN MEETING	4	0	0	1	25	1	25	2	50	0	0	1	25
REP. TOWN MEETING	1	0	0	0	0	0	0	0	0	0	0	1	100

TABLE 108.

CITY AS OBJECT OF ENVIRONMENTAL SUIT IN LAST TWO YEARS

	NO. OF REPORTING (A)	HAVE BEEN OBJECT OF SUIT(S)		HAVE NOT BEEN OBJECT OF SUIT	
		NO. B	% A	NO.	% A
TOTAL, ALL CITIES	1069	164	15	905	85
POPULATION GROUP					
OVER 500,000	10	4	40	6	60
250,000-500,000	18	7	39	11	61
100,000-250,000	61	20	33	41	67
50,000-100,000	137	28	20	109	80
25,000- 50,000	265	38	14	227	86
10,000- 25,000	578	67	12	511	88
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	242	41	17	201	83
NORTH CENTRAL	311	52	17	259	83
SOUTH	265	37	14	228	86
WEST	251	34	14	217	86
METRO/CITY TYPE					
CENTRAL	188	50	27	138	73
SUBURBAN	567	72	13	495	87
INDEPENDENT	314	42	13	272	87
FORM OF GOVERNMENT					
MAYOR-COUNCIL	268	48	18	220	82
COUNCIL-MANAGER	739	106	14	633	86
COMMISSION	32	5	16	27	84
TOWN MEETING	23	5	22	18	78
REP. TOWN MEETING	7	0	0	7	100

TABLE 109

PARTY BRINGING SUIT AGAINST CITY

	HAVE BEEN OBJECT OF SUIT(S)	ENVIRON-MENTAL GROUP		PRIVATE BUSINESS		STATE GOVTS.		FEDERAL GOVERNMENT		OTHER	
	(B)	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL CITIES	164	26	16	46	28	55	34	12	7	35	21
POPULATION GROUP											
OVER 500,000	4	2	50	1	25	0	0	1	25	0	0
250,000-500,000	7	0	0	1	14	3	43	1	14	3	43
100,000-250,000	20	5	25	6	30	4	20	2	10	5	25
50,000-100,000	28	7	25	5	18	10	36	2	7	6	21
25,000- 50,000	38	6	16	10	26	15	39	5	13	9	24
10,000- 25,000	67	6	9	23	34	23	34	1	1	12	18
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	41	5	12	10	24	17	41	6	15	7	17
NORTH CENTRAL	52	6	12	11	21	25	48	3	6	9	17
SOUTH	37	3	8	11	30	9	24	2	5	10	27
WEST	34	12	35	14	41	4	12	1	3	9	26
METRO/CITY TYPE											
CENTRAL	50	10	20	10	20	17	34	6	12	9	18
SUBURBAN	72	13	18	23	32	23	32	4	6	19	26
INDEPENDENT	42	3	7	13	31	15	36	2	5	7	17
FORM OF GOVERNMENT											
MAYOR-COUNCIL	48	2	4	10	21	22	46	8	17	11	23
COUNCIL-MANAGER	106	24	23	33	31	29	27	3	3	23	22
COMMISSION	5	0	0	1	20	2	40	1	20	1	20
TOWN MEETING	5	0	0	2	40	2	40	0	0	0	0
REP. TOWN MEETING	0	0	0	0	0	0	0	0	0	0	0

TABLE 110.

COUNTY AS OBJECT OF ENVIRONMENTAL SUIT IN LAST TWO YEARS

	NO. OF REPORTING (A)	HAVE BEEN OBJECT OF SUIT(S) NO. B	% A	HAVE NOT BEEN OBJECT OF SUIT NO.	% A
TOTAL, ALL COUNTIES	162	28	17	134	83
POPULATION GROUP					
OVER 500,000	25	12	48	13	52
250,000-500,000	24	3	13	21	88
100,000-250,000	51	8	16	43	84
50,000-100,000	62	5	8	57	92
25,000- 50,000	0	0	0	0	0
10,000- 25,000	0	0	0	0	0
5,000- 10,000	0	0	0	0	0
2,500- 5,000	0	0	0	0	0
UNDER 2,500	0	0	0	0	0
GEOGRAPHIC REGION					
NORTHEAST	37	3	8	34	92
NORTH CENTRAL	44	8	18	36	82
SOUTH	49	5	10	44	90
WEST	32	12	38	20	63
METRO STATUS					
METRO	109	25	23	84	77
NON METRO	53	3	6	50	94
FORM OF GOVERNMENT					
WITHOUT ADMINISTRATOR	51	5	10	46	90
WITH ADMINISTRATOR	67	19	28	48	72
UNKNOWN	44	4	9	40	91

TABLE 111

PARTY BRINGING SUIT AGAINST COUNTY

	HAVE BEEN OBJECT OF SUIT(S)	ENVIRONMENTAL GROUP		PRIVATE BUSINESS		STATE GOVTS.		FEDERAL GOVERNMENT		OTHER	
	(B)	NO.	% B	NO.	% B	NO.	% B	NO.	% B	NO.	% B
TOTAL, ALL COUNTIES	28	11	39	4	14	4	14	0	0	12	43
POPULATION GROUP											
OVER 500,000	12	5	42	1	8	1	8	0	0	5	42
250,000-500,000	3	1	33	0	0	2	67	0	0	1	33
100,000-250,000	8	3	38	2	25	0	0	0	0	3	38
50,000-100,000	5	2	40	1	20	1	20	0	0	3	60
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	3	0	0	2	67	1	33	0	0	1	33
NORTH CENTRAL	8	3	38	1	13	1	13	0	0	5	63
SOUTH	5	1	20	0	0	0	0	0	0	3	60
WEST	12	7	58	1	8	2	17	0	0	3	25
METRO STATUS											
METRO	25	9	36	4	16	3	12	0	0	11	44
NON METRO	3	2	67	0	0	1	33	0	0	1	33
FORM OF GOVERNMENT											
WITHOUT ADMINISTRATOR	5	0	0	2	40	0	0	0	0	3	60
WITH ADMINISTRATOR	19	9	47	2	11	2	11	0	0	7	37
UNKNOWN	4	2	50	0	0	2	50	0	0	2	50

TABLE 112.

CITY COMPLIANCE DIFFICULTIES WITH STATE AND FEDERAL STANDARDS

	NO. OF REPORTING (A)	NO PROBLEMS		STATE AIR STANDARDS		FED AIR STANDARDS		ST WATER STANDARDS		FED WATER STANDARDS	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	881	462	52	117	13	72	8	288	33	180	20
POPULATION GROUP											
OVER 500,000	10	2	20	3	30	3	30	5	50	2	20
250,000-500,000	17	5	29	5	29	2	12	7	41	7	41
100,000-250,000	52	22	42	11	21	12	23	14	27	14	27
50,000-100,000	117	59	50	17	15	11	9	41	35	21	18
25,000- 50,000	219	127	58	30	14	18	8	53	24	41	19
10,000- 25,000	466	247	53	51	11	26	6	168	36	95	20
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	188	94	50	33	18	21	11	60	32	39	21
NORTH CENTRAL	260	141	54	28	11	17	7	81	31	62	24
SOUTH	222	111	50	24	11	12	5	86	39	51	23
WEST	211	116	55	32	15	22	10	61	29	28	13
METRO/CITY TYPE											
CENTRAL	170	71	42	30	18	23	14	65	38	42	25
SUBURBAN	450	270	60	51	11	33	7	130	29	68	15
INDEPENDENT	261	121	46	36	14	16	6	93	36	70	27
FORM OF GOVERNMENT											
MAYOR-COUNCIL	211	111	53	33	16	24	11	66	31	46	22
COUNCIL-MANAGER	622	323	52	76	12	47	8	212	34	126	20
COMMISSION	24	14	58	3	13	0	0	5	21	5	21
TOWN MEETING	19	11	58	4	21	0	0	5	26	2	11
REP. TOWN MEETING	5	3	60	1	20	1	20	0	0	1	20

TABLE 113.

COUNTY COMPLIANCE DIFFICULTIES WITH STATE AND FEDERAL STANDARDS

	NO. OF REPORTING (A)	NO PROBLEMS NO.	NO PROBLEMS % A	STATE AIR STANDARDS NO.	STATE AIR STANDARDS % A	FED AIR STANDARDS NO.	FED AIR STANDARDS % A	ST WATER STANDARDS NO.	ST WATER STANDARDS % A	FED WATER STANDARDS NO.	FED WATER STANDARDS % A
TOTAL, ALL COUNTIES	133	67	50	30	23	17	13	52	39	34	26
POPULATION GROUP											
OVER 500,000	23	9	39	7	30	9	39	12	52	9	39
250,000-500,000	23	8	35	9	39	3	13	11	48	9	39
100,000-250,000	46	25	54	10	22	4	9	17	37	11	24
50,000-100,000	41	25	61	4	10	1	2	12	29	5	12
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION											
NORTHEAST	30	15	50	4	13	3	10	13	43	7	23
NORTH CENTRAL	33	18	55	6	18	2	6	12	36	8	24
SOUTH	41	22	54	10	24	6	15	16	39	12	29
WEST	29	12	41	10	34	6	21	11	38	7	24
METRO STATUS											
METRO	97	48	49	24	25	16	16	39	40	30	31
NON METRO	36	19	53	6	17	1	3	13	36	4	11
FORM OF GOVERNMENT											
WITHOUT ADMINISTRATOR	33	20	61	5	15	1	3	10	30	7	21
WITH ADMINISTRATOR	61	29	48	16	26	13	21	25	41	17	28
UNKNOWN	39	18	46	9	23	3	8	17	44	10	26

TABLE 114

PROBLEMS ENCOUNTERED BY CITIES IN RELATIONS WITH STATES

	Number Re-sponding	Number Reporting		Overlap-ping Programs		Conflictng or Unreal Standards		Unreasonable Enforce mnt Measur		Inadequate Loc Prtcpa Tn Pol-Mak		Inadequate Communi-cation		Inadequate Technical Assistance		Uncertanty & Delay Pro gram Admin		Inadequate Funding	
	(A)	(B)	%(A)	No.	%(B)	No.	%(B)	No.	%(B)	No.	%(B)	No.	%(B)	No.	%(B)	No.	%(B)	No.	%(B)
Total, All Cities	1115	746	67	159	21	257	34	151	20	254	34	233	31	199	27	275	37	358	48
Population Group																			
Over 500,000	10	9	90	3	33	1	11	2	22	2	22	2	22	1	11	3	33	3	33
250,000-500,000	18	15	83	3	20	6	40	3	20	5	33	4	27	5	33	5	33	9	60
100,000-250,000	61	47	77	10	21	13	28	9	19	16	34	12	26	17	36	22	47	25	53
50,000-100,000	142	112	79	22	20	40	36	21	19	45	40	47	42	25	22	41	37	49	44
25,000- 50,000	282	186	66	40	20	55	30	35	19	59	32	62	33	47	25	60	32	91	49
10,000- 25,000	602	377	63	71	19	142	38	81	21	127	34	106	28	104	28	144	38	181	48
Geographic Region																			
Northeast	252	161	64	30	19	56	35	42	26	49	30	40	25	62	39	61	38	89	55
North Central	327	211	65	44	21	81	38	48	23	68	32	77	36	52	25	75	36	108	51
South	274	186	68	40	22	58	31	31	17	69	37	49	26	42	23	62	33	82	44
West	262	188	72	45	24	62	33	30	16	68	36	67	36	43	23	77	41	79	42
Metro/City Type																			
Central	195	147	75	34	23	45	31	38	26	50	34	46	31	45	31	61	41	77	52
Suburban	592	370	62	76	21	140	38	71	19	142	38	127	34	97	26	142	38	171	46
Independent	328	229	70	49	21	72	31	42	18	62	27	60	26	57	25	72	31	110	48
Form of Government																			
Mayor-Council	279	177	63	37	21	54	31	38	21	51	29	49	28	41	23	67	38	103	58
Council-Manager	769	528	69	116	22	190	36	101	19	192	36	174	33	141	27	196	37	234	44
Other	67	41	61	6	15	13	32	12	29	11	27	10	24	17	41	12	29	21	51

TABLE 115

PROBLEMS ENCOUNTERED BY CITIES IN RELATIONS WITH FEDERAL AGENCIES

	Reporting (A)	Overlapping Programs		Conflicting Or Unreal Standards		Unreasonable Enforcement Measur		Inadequate Loc Prtcpa tn Pol-Mak		Inadequate Communication		Inadequate Technical Assistance		Uncertanty & Dely Program Admin		Inadequate Funding	
		No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All Cities	746	166	22	222	30	91	12	204	27	225	30	155	21	306	41	361	48
Population Group																	
Over 500,000	9	2	22	1	11	1	11	4	44	2	22	0	0	6	67	3	33
250,000-500,000	15	5	33	9	60	4	27	5	33	6	40	6	40	8	54	10	67
100,000-250,000	47	12	26	17	36	10	21	14	30	15	32	12	26	27	57	26	55
50,000-100,000	112	25	22	31	28	13	12	38	34	38	34	23	21	42	38	47	42
25,000- 50,000	186	32	17	51	27	22	12	48	26	58	31	36	19	69	37	82	44
10,000- 25,000	377	90	24	113	30	41	11	95	25	106	28	78	21	154	41	193	51
Geographic Region																	
Northeast	161	30	19	38	24	17	11	43	27	38	24	41	25	58	36	87	54
North Central	211	40	19	77	36	28	13	58	27	62	29	41	19	91	43	116	55
South	186	50	27	63	34	29	16	57	31	66	35	38	20	88	47	88	47
West	188	46	24	44	23	17	9	46	24	59	31	35	19	69	37	70	37
Metro/City Type																	
Central	147	37	25	50	34	20	14	42	29	45	31	34	23	72	49	77	52
Suburban	370	70	19	98	26	40	11	109	29	109	29	71	19	136	37	159	43
Independent	229	59	26	74	32	31	14	53	23	71	31	50	22	98	43	125	55
Form of Government																	
Mayor-Council	177	36	20	58	33	24	14	50	28	45	25	42	24	76	43	113	64
Council-Manager	528	122	23	157	30	64	12	147	28	170	32	102	19	216	41	232	44
Other	41	8	20	7	17	3	7	7	17	10	24	11	27	14	34	16	39

TABLE 116

SUMMARY CITY COMPLAINTS

Problem	Problem with State & Federal Governments (1)		Problem with State Government				Problem with Federal Government				Total Problem with State or Fed. Gov't. (6) (Cols. 1 & 2 & 4)	
			ONLY (2)		TOTAL (3) (Cols. 1 & 2)		ONLY (4)		TOTAL (5) (Cols. 1 & 4)			
	N	%*	N	%*	N	%*	N	%*	N	%*	N	%*
Financing - Inadequate	271	24	87	8	358	32	90	8	361	32	448	40
Administration - Uncertainty, Delay	193	17	82	7	275	25	113	10	306	27	388	35
Standards - Conflicting or Unrealistic	123	11	134	12	257	23	99	9	222	20	356	32
Communication - Inadequate	154	14	79	7	233	21	71	6	225	20	304	27
Policy Making - Inadequate Local Participation	161	14	93	8	254	23	43	4	204	18	297	27
Technical Assistance - Inadequate	116	10	83	7	199	18	39	3	155	14	238	21
Programs - Overlapping	114	10	45	4	159	14	52	5	166	15	211	19
Enforcement Measures - Unreasonable	50	4	101	9	151	14	41	4	91	8	192	17

*Percentages based on total number of respondents (N=1115)

TABLE 117

PROBLEMS ENCOUNTERED BY COUNTIES IN RELATIONS WITH STATES

	Number Reporting (A)	Overlap-ping Programs		Conflicting or Unreal Standards		Unreasonable Enforce Mnt Measur		Inadequate Loc Prtcpa Tn Pol-Mak		Inadequate Communi-cation		Inadequate Technical Assistance		Uncertanty & Dely Pro Grm Admin		Inadequate Funding	
		No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All Counties	105	26	25	35	33	19	18	36	34	36	34	29	28	36	34	48	46
Population Group																	
Over 500,000	22	7	32	8	36	5	23	8	36	9	41	5	23	10	45	11	50
250,000-500,000	17	5	29	8	47	3	18	4	24	8	47	3	18	9	53	8	47
100,000-250,000	35	7	20	10	29	6	17	9	26	10	29	12	34	9	26	15	43
50,000-100,000	31	7	23	9	29	5	16	15	48	9	29	9	29	8	26	14	45
Geographic Region																	
Northeast	24	5	21	9	38	5	21	10	42	11	46	8	33	9	38	11	46
North Central	27	6	22	9	33	6	22	7	26	9	33	6	22	10	37	9	33
South	29	9	31	9	31	7	24	10	35	9	31	10	35	8	28	13	45
West	25	6	24	8	32	1	4	9	36	7	28	0	0	9	36	15	60
Metro Status																	
Metro	74	18	24	25	34	15	20	22	30	27	36	20	27	27	36	33	45
Non Metro	31	8	26	10	32	4	13	14	45	9	29	9	29	9	29	15	8
Form of Government																	
Without Administrator	28	6	21	9	32	4	14	10	36	11	39	9	32	8	29	10	36
With Administrator	50	17	34	21	42	11	22	19	38	18	36	13	26	20	40	29	58
Unknown	27	3	11	5	19	4	15	7	26	7	26	7	26	8	30	0	33

TABLE 118

PROBLEMS ENCOUNTERED BY COUNTIES IN RELATIONS WITH FEDERAL AGENCIES

	Number Reporting (A)	Overlap-ping Programs		Conflictng or Unreal Standards		Unreasonable Enforce Mnt Measur		Inadequate Loc Prtcpa Tn Pol-Mak		Inadequate Communi-cation		Inadequate Technical Assistance		Uncertanty & Dely Pro grm Admin		Inadequate Funding	
		No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)	No.	% (A)
Total, All Counties	105	24	23	26	25	12	11	34	32	42	40	27	26	37	35	54	51
Population Group																	
Over 500,000	22	9	41	5	23	5	23	8	36	10	45	7	32	13	59	13	59
250,000-500,000	17	5	29	5	29	1	6	5	29	7	41	3	18	10	59	8	47
100,000-250,000	35	6	17	10	29	4	11	8	23	12	34	7	20	8	23	18	51
50,000-100,000	31	4	13	6	19	2	6	13	42	13	42	10	32	6	19	15	48
Geographic Region																	
Northeast	24	7	29	7	29	3	13	9	38	12	50	9	38	12	50	14	58
North Central	27	7	26	8	30	2	7	10	37	14	52	5	19	6	22	12	44
South	29	7	24	5	17	6	21	8	28	11	38	7	24	10	35	15	52
West	25	3	12	6	24	1	4	7	28	5	20	6	24	9	36	13	52
Metro Status																	
Metro	74	21	28	19	26	11	15	22	30	31	42	18	24	33	45	41	55
Non Metro	31	3	10	7	23	1	3	12	39	11	35	9	29	4	13	13	42
Form of Government																	
Without Administrator	28	7	25	8	29	3	11	12	43	15	54	10	36	8	29	14	50
With Administrator	50	15	30	14	28	7	14	14	28	17	34	13	26	22	44	27	54
Unknown	27	2	7	4	15	2	7	8	30	10	37	4	15	7	15	13	48

TABLE 119.

MAJOR OBSTACLES TO ENVIRONMENTAL MANAGEMENT IN CITIES

	NO. OF REPORTING (A)	INSUFFICIEN ENABLING LEGISLATION		LACK OF PUBLIC SUPPORT		INADEQUATE METHODS TO MEAS PROBS		LACK OF EXPERTISE		INADEQUATE FINANCES		FRAGMENTA OF RESPON LEV OF GOV		FRAGMENTA OF RESPON WITHN MUNIC		ABSENCE OF NECESSARY TECHNOLOGY		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	988	184	19	206	21	357	36	376	38	701	71	481	49	112	11	274	28	79	8
POPULATION GROUP																			
OVER 500,000	10	3	30	1	10	2	20	1	10	7	70	4	40	3	30	2	20	1	10
250,000-500,000	17	3	18	3	18	5	29	1	6	13	76	12	71	4	24	4	24	3	18
100,000-250,000	58	21	36	13	22	24	41	15	26	43	74	39	67	14	24	15	26	4	7
50,000-100,000	131	31	24	19	15	52	40	48	37	92	70	78	60	19	15	41	31	10	8
25,000- 50,000	246	44	18	53	22	93	38	86	35	172	70	116	47	33	13	58	24	22	9
10,000- 25,000	526	82	16	115	23	181	34	225	43	374	71	232	44	39	7	154	29	39	7
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	218	44	20	40	18	72	33	73	33	156	72	102	47	41	19	58	27	12	6
NORTH CENTRAL	293	55	19	62	21	115	39	122	42	218	74	134	46	30	10	84	29	18	6
SOUTH	236	49	21	62	26	82	35	87	37	166	70	109	46	29	12	69	29	23	10
WEST	241	36	15	44	18	88	37	96	40	159	66	136	56	12	5	63	26	26	11
METRO/CITY TYPE																			
CENTRAL	177	40	23	34	19	66	37	56	32	130	73	99	56	36	20	39	22	20	11
SUBURBAN	520	94	18	86	17	196	38	209	40	361	69	258	50	48	9	166	32	39	8
INDEPENDENT	291	50	17	86	30	95	33	113	39	210	72	124	43	28	10	69	24	20	7
FORM OF GOVERNMENT																			
MAYOR-COUNCIL	237	49	21	44	19	77	32	78	33	178	75	99	42	35	15	63	27	11	5
COUNCIL-MANAGER	696	121	17	153	22	268	39	282	41	480	69	354	51	58	8	198	28	64	9
COMMISSION	27	8	30	7	26	7	26	9	33	24	89	13	48	9	33	5	19	1	4
TOWN MEETING	21	3	14	3	14	5	24	8	38	14	67	9	43	6	29	4	19	2	10
REP. TOWN MEETING	7	3	43	1	14	0	0	1	14	5	71	6	86	4	57	4	57	1	14

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TABLE 120

MAJOR OBSTACLES TO ENVIRONMENTAL MANAGEMENT IN COUNTIES

	NO. OF REPORTING (A)	INSUFFICIEN ENABLING LEGISLATION		LACK OF PUBLIC SUPPORT		INADEQUATE METHODS TO MEAS PROBS		LACK OF EXPERTISE		INADEQUATE FINANCES		FRAGMENTA OF RESPON LEV OF GOV		FRAGMENTA OF RESPON WTHN MUNIC		ABSENCE/OF NECESSARY TECHNOLOGY		OTHER	
		NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL COUNTIES	156	60	38	29	19	39	25	40	26	107	69	100	64	35	22	35	22	18	12
POPULATION GROUP																			
OVER 500,000	25	9	36	1	4	10	40	3	12	16	64	20	80	7	28	7	28	3	12
250,000-500,000	26	14	54	6	23	9	35	4	15	16	62	19	73	8	31	6	23	4	15
100,000-250,000	50	21	42	7	14	10	20	14	28	33	66	30	60	11	22	7	14	5	10
50,000-100,000	55	16	29	15	27	10	18	19	35	42	76	31	56	9	16	15	27	6	11
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	35	14	40	8	23	11	31	8	23	23	66	28	80	9	26	8	23	3	9
NORTH CENTRAL	43	15	35	8	19	8	19	10	23	30	70	29	67	7	16	8	19	4	9
SOUTH	46	22	48	9	20	11	24	16	35	33	72	23	50	9	20	12	26	7	15
WEST	32	9	28	4	13	9	28	6	19	21	66	20	63	10	31	7	22	4	13
METRO STATUS																			
METRO	109	50	46	17	16	31	28	27	25	73	67	69	63	27	25	24	22	12	11
NON METRO	47	10	21	12	26	8	17	13	28	34	72	31	66	8	17	11	23	6	13
FORM OF GOVERNMENT																			
WITHOUT ADMINISTRATOR	49	19	39	10	20	8	16	9	18	30	61	29	59	12	24	9	18	6	12
WITH ADMINISTRATOR	66	24	36	10	15	19	29	18	27	45	68	46	70	16	24	16	24	6	9
UNKNOWN	41	17	41	9	22	12	29	13	32	32	78	25	61	7	17	10	24	6	15

Table 121

TYPES OF ENVIRONMENT-RELATED TRAINING NEEDED FOR CITY MANAGEMENT STAFF

	Number Reporting Training Need	General Environment		Envir Standards & Enforcement		Environment Impact Statements		Liquid Waste		Solid Waste		Water	
	(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)	No.	%(A)
Total, All Cities	972	674	69	686	71	547	56	216	22	276	28	168	17
Population Group													
Over 500,000	7	6	86	5	71	5	71	2	29	3	43	2	29
250,000-500,000	18	12	67	12	67	12	67	4	22	7	39	4	22
100,000-250,000	56	32	57	40	71	38	68	16	29	15	27	13	23
50,000-100,000	134	90	67	92	69	86	64	27	20	31	23	18	13
25,000- 50,000	243	174	72	169	70	130	53	49	20	65	27	38	16
10,000- 25,000	514	360	70	368	72	276	54	118	23	155	30	93	18
Geographic Region													
Northeast	206	138	67	152	74	116	56	52	25	69	33	35	17
North Central	294	214	73	199	68	155	53	63	21	80	27	44	15
South	238	166	70	168	71	136	57	71	28	76	30	57	23
West	234	156	67	167	71	140	60	30	13	51	22	32	14
Metro/City Type													
Central	176	119	68	121	69	113	64	44	25	51	29	40	23
Suburban	517	358	69	366	71	279	54	98	19	139	27	77	15
Independent	279	197	71	199	71	155	56	74	27	86	31	51	18
Form of Government													
Mayor-Council	232	151	65	157	68	114	49	58	25	78	34	46	20
Council-Manager	690	487	71	497	72	407	59	140	20	177	26	110	16
Commission	25	22	88	18	72	12	48	9	36	12	48	8	32
Town Meeting	18	9	50	10	56	8	44	8	44	8	44	4	22
Rep. Town Meeting	7	5	71	4	57	6	86	1	14	1	14	0	0

TABLE 122

TYPES OF ENVIRONMENT-RELATED TRAINING NEEDED FOR COUNTY MANAGEMENT STAFF

	Number Reporting Training Need	General Environment		Envir Standards & Enforcement		Environmnt Impact Statements		Liquid Waste		Solid Waste		Water	
	(A)	No	%(A)	No	%(A)	No	%(A)	No	%(A)	No	%(A)	No	%(A)
Total, All Counties	139	97	70	83	60	76	55	44	32	64	46	48	35
Population Group													
Over 500,000	22	11	50	15	68	15	68	7	32	8	36	8	36
250,000-500,000	23	16	70	15	65	14	61	11	48	12	52	9	39
100,000-250,000	45	32	71	25	56	24	53	14	31	21	47	16	36
50,000-100,000	49	38	78	28	57	23	47	12	24	23	47	15	31
Geographic Region													
Northeast	31	23	74	16	52	17	55	10	32	16	52	10	32
North Central	38	26	68	19	50	20	53	15	40	21	55	11	29
South	39	29	74	29	74	23	59	12	31	18	46	18	46
West	31	19	61	19	61	16	52	7	23	9	29	9	29
Metro Status													
Metro	95	63	66	60	63	56	59	31	33	43	45	35	37
Non Metro	44	34	77	23	52	20	45	13	30	21	48	13	30
Form of Government													
Without Administrator	39	31	80	21	54	20	51	15	38	24	62	15	38
With Administrator	60	37	62	39	65	34	57	18	30	24	40	20	33
Unknown	40	29	73	23	58	22	55	11	28	16	40	13	33

TABLE 123.

AREAS OF CITY STAFF COMPETENCE

	NO. OF REPORTING (A)	ENVIRON-MENTAL MANAGEMENT NO.	% A	ENVIRON-MENTAL SCIENCES NO.	% A	AIR QUALITY NO.	% A	LAND USE NO.	% A	NOISE NO.	% A	SEWERAGE NO.	% A	SOLID WASTE NO.	% A	WATER QUALITY NO.	% A	OTHER NO.	% A
TOTAL, ALL CITIES	1042	273	26	117	11	167	16	877	84	220	21	893	86	821	79	785	76	51	5
POPULATION GROUP																			
OVER 500,000	10	5	50	6	60	6	60	7	70	4	40	9	90	10	100	10	100	1	10
250,000-500,000	18	7	39	7	39	11	61	17	94	7	39	17	94	16	89	16	89	2	11
100,000-250,000	60	23	38	14	23	24	40	55	92	18	30	53	88	51	85	47	78	4	7
50,000-100,000	138	53	38	23	17	37	27	130	94	46	33	118	86	110	80	108	78	5	4
25,000- 50,000	266	64	24	30	11	33	12	232	87	58	22	215	81	210	79	192	72	15	6
10,000- 25,000	550	121	22	37	7	56	10	436	79	87	16	481	87	424	77	416	76	24	4
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	222	52	23	32	14	41	18	175	79	35	16	186	84	175	79	142	64	7	3
NORTH CENTRAL	304	65	21	28	9	59	19	247	81	61	20	261	86	246	81	237	78	19	6
SOUTH	263	62	24	26	10	47	18	218	83	39	15	252	96	241	92	237	90	10	4
WEST	253	90	36	31	12	20	8	237	94	85	34	194	77	159	63	173	68	15	6
METRO/CITY TYPE																			
CENTRAL	192	64	33	38	20	66	34	165	86	51	27	176	92	169	88	171	89	9	5
SUBURBAN	544	155	28	55	10	64	12	464	85	128	24	427	78	377	69	354	65	31	6
INDEPENDENT	306	54	18	24	8	37	12	248	81	41	13	290	95	275	90	264	86	11	4
FORM OF GOVERNMENT																			
MAYOR-COUNCIL	255	54	21	29	11	56	22	193	76	47	18	225	88	194	76	186	73	12	5
COUNCIL-MANAGER	735	205	28	80	11	101	14	644	88	165	22	623	85	583	79	564	77	38	5
COMMISSION	26	7	27	2	8	5	19	20	77	4	15	24	92	23	88	23	88	0	0
TOWN MEETING	18	4	22	4	22	4	22	14	78	3	17	14	78	15	83	12	67	0	0
REP. TOWN MEETING	8	3	38	2	25	1	13	6	75	1	13	7	88	6	75	4	50	1	13

TABLE 124

AREAS OF COUNTY STAFF COMPETENCE

	NO. OF REPORTING (A)	ENVIRONMENTAL MANAGEMENT NO.	ENVIRONMENTAL MANAGEMENT % A	ENVIRONMENTAL SCIENCES NO.	ENVIRONMENTAL SCIENCES % A	AIR QUALITY NO.	AIR QUALITY % A	LAND USE NO.	LAND USE % A	NOISE NO.	NOISE % A	SEWERAGE NO.	SEWERAGE % A	SOLID WASTE NO.	SOLID WASTE % A	WATER QUALITY NO.	WATER QUALITY % A	OTHER NO.	OTHER % A
TOTAL, ALL COUNTIES	155	68	44	50	32	66	43	122	79	31	20	115	74	137	88	114	74	15	10
POPULATION GROUP																			
OVER 500,000	25	18	72	15	60	17	68	20	80	14	56	17	68	22	88	21	84	6	24
250,000-500,000	25	12	48	9	36	11	44	21	84	5	20	22	88	24	96	21	84	5	20
100,000-250,000	50	23	46	22	44	22	44	37	74	7	14	40	80	44	88	38	76	3	6
50,000-100,000	55	15	27	4	7	16	29	44	80	5	9	36	65	47	85	34	62	1	2
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																			
NORTHEAST	33	18	55	10	30	9	27	29	88	2	6	22	67	25	76	22	67	6	18
NORTH CENTRAL	43	11	26	14	33	13	30	29	67	8	19	31	72	39	91	32	74	2	5
SOUTH	46	18	39	11	24	19	41	32	70	10	22	34	74	42	91	31	67	4	9
WEST	33	21	64	15	45	25	76	32	97	11	33	28	85	31	94	29	88	3	9
METRO STATUS																			
METRO	105	49	47	43	41	52	50	79	75	26	25	81	77	96	91	82	78	13	12
NON METRO	50	19	38	7	14	14	28	43	86	5	10	34	63	41	82	32	64	2	4
FORM OF GOVERNMENT																			
WITHOUT ADMINISTRATOR	45	18	40	10	22	12	27	36	80	3	7	29	64	38	84	29	64	2	4
WITH ADMINISTRATOR	65	36	55	27	42	45	69	52	80	24	37	48	74	58	89	54	83	7	11
UNKNOWN	45	14	31	13	29	9	20	34	76	4	9	38	84	41	91	31	69	6	13

TABLE 125

OUTSIDE ENVIRONMENTAL EXPERTISE UTILIZED BY CITY IN PAST TWO YEARS

	NO. OF REPORTING	OTHER LOCAL GOV'TS.		COG OR OTHER REGIONAL STF		STATE OFFICIALS		FEDERAL OFFICIALS		CONSULTING FIRM		UNIVERSITY STAFF		ENVIRONMENTAL GROUPS		OTHER	
	(A)	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A	NO.	% A
TOTAL, ALL CITIES	1025	268	26	294	29	702	68	332	32	611	60	184	18	270	26	79	8
POPULATION GROUP																	
OVER 500,000	10	0	0	4	40	6	60	8	80	4	40	4	40	5	50	3	30
250,000-500,000	17	3	18	5	29	13	76	10	59	11	65	8	47	9	53	2	12
100,000-250,000	60	10	17	15	25	40	67	37	62	36	60	18	30	18	30	8	13
50,000-100,000	134	32	24	36	27	93	69	41	31	83	62	28	21	47	35	11	8
25,000- 50,000	252	68	27	77	31	164	65	78	31	137	54	49	19	71	28	23	9
10,000- 25,000	552	95	17	157	28	388	70	158	29	340	62	77	14	120	22	32	6
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																	
NORTHEAST	226	25	11	40	18	169	75	71	31	130	58	31	14	76	35	14	6
NORTH CENTRAL	301	64	21	74	25	210	70	95	32	178	59	62	21	83	28	29	10
SOUTH	255	37	15	90	35	192	75	102	40	158	62	47	18	49	19	14	5
WEST	243	82	34	90	37	131	54	64	26	145	60	44	18	60	25	22	9
METRO/CITY TYPE																	
CENTRAL	185	32	17	50	27	137	74	90	49	122	66	50	27	63	34	15	8
SUBURBAN	540	145	27	173	32	340	63	134	25	293	54	64	12	153	28	54	10
INDEPENDENT	300	31	10	71	24	225	75	109	36	196	65	70	23	54	18	10	3
FORM OF GOVERNMENT																	
MAYOR-COUNCIL	255	50	20	59	23	168	66	93	36	147	58	51	20	78	31	20	8
COUNCIL-MANAGER	718	155	22	221	31	487	68	218	30	440	61	123	17	175	24	57	8
COMMISSION	25	2	8	7	28	22	88	11	44	15	60	7	28	7	28	2	8
TOWN MEETING	19	0	0	5	26	18	95	5	26	8	42	1	5	8	42	0	0
REP. TOWN MEETING	8	1	13	2	25	7	88	5	63	1	13	2	25	2	25	0	0

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TABLE 126

OUTSIDE ENVIRONMENTAL EXPERTISE UTILIZED BY COUNTY IN PAST TWO YEARS

	NO. OF REPORTING (A)	OTHER LOCAL GOVTS. NO.	% A	COG OR OTHER REGIONAL STF NO.	% A	STATE OFFICIALS NO.	% A	FEDERAL OFFICIALS NO.	% A	CONSULTING FIRM NO.	% A	UNIVERSITY STAFF NO.	% A	ENVIRONMENTAL GROUPS NO.	% A	OTHER NO.	% A
TOTAL, ALL COUNTIES	156	33	21	47	30	118	76	64	41	71	46	56	36	53	34	10	6
POPULATION GROUP																	
OVER 500,000	23	4	17	6	26	15	65	14	61	11	48	9	39	12	52	2	9
250,000-500,000	24	5	21	4	17	18	75	13	54	13	54	7	29	6	25	1	4
100,000-250,000	53	8	15	22	42	43	81	19	36	21	40	19	36	22	42	6	11
50,000-100,000	56	16	29	15	27	42	75	18	32	26	46	21	38	13	23	1	2
25,000- 50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000- 25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,000- 10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2,500- 5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDER 2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOGRAPHIC REGION																	
NORTHEAST	35	4	11	4	11	30	86	12	34	23	66	11	31	13	37	3	9
NORTH CENTRAL	43	8	19	8	19	29	67	17	40	17	40	17	40	11	26	2	5
SOUTH	48	12	25	23	48	39	81	22	46	16	33	15	31	12	25	3	6
WEST	30	9	30	12	40	20	67	13	43	15	50	13	43	17	57	2	7
METRO STATUS																	
METRO	106	19	18	34	32	79	75	49	46	47	44	35	33	39	37	9	8
NON METRO	50	14	28	13	26	39	78	15	30	24	48	21	42	14	28	1	2
FORM OF GOVERNMENT																	
WITHOUT ADMINISTRATOR	45	10	22	13	29	34	76	20	44	22	49	15	33	11	24	2	4
WITH ADMINISTRATOR	64	12	19	22	34	49	77	33	52	33	52	24	38	27	42	4	6
UNKNOWN	47	11	23	12	26	35	74	11	23	16	34	17	36	15	32	4	9

APPENDIX 3

RECIPIENTS OF FEDERAL PART OF SURVEY*

Advisory Council on Historic Preservation

Department of Agriculture

Atomic Energy Commission; regulatory and nonregulatory

Department of the Army; Corps of Engineers

Department of Commerce

Department of Defense

Council on Environmental Quality (Chairman)

Environmental Protection Agency (11); regional offices

Federal Power Commission

General Services Administration

Department of Health, Education and Welfare

Department of Housing and Urban Development (11); regional offices

Department of Interior (13); bureaus

Tennessee Valley Authority

Department of Transportation

Department of Treasury

Total: 49

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*Questionnaires were mailed to federal agency offices for receiving and coordinating comments upon environmental impact statements except where noted.

SECTION III

FIELD STUDIES IN LOCAL ENVIRONMENTAL MANAGEMENT

A. Field Studies in Local Environmental Management

Introduction

During the last few years, local governments on their own initiative, in response to citizen pressure, or in keeping with state and federal regulations have paid increasing attention to environmental problems. The diversity of their response has resulted in a myriad of new legislation, re-organization plans, and programs all aimed at better management of the environment. This deluge of actions, lacking any systematic evaluation, has left government officials uncertain regarding what actions local governments have taken to manage the environment; what organizational changes have been made; what programs have been adopted; and how effective have they been. The survey on local environmental management, as summarized in the preceding chapter, does provide a national perspective through a statistical analysis of local governments utilizing a particular organizational structure or environmental program. However, since the number of local governments using any particular innovation is quite low, generally around 20 percent, local government officials need more in-depth information on the various organizational approaches and environmental programs presently being utilized.

This part focuses on two aspects of local environmental management: organizational changes related to environmental problems and programmatic actions aimed at improving environmental quality. The purposes here are:

- --to identify innovations in local environmental management
- --to describe and analyze the various organizational and programmatic actions taken by local governments for improving environmental quality
- --to develop some general guidelines for program development in which potential problems and improvements are outlined

Before getting into this part, a word of caution is in order. Each local government has its own unique set of environmental problems and operating context. Therefore, an organizational and programmatic action should not be adopted without consideration of the local environmental problems and some modification for the local context. The remainder of this chapter is divided into four parts: a discussion of data collection methods, an analysis of organizational changes designed to deal with environmental problems, an analysis of environmental programs presently used by local governments, and a general conclusion.

INVESTIGATIVE DESIGN

In areas such as environmental management, where there is limited experience to guide the actions of others, researchers have found intensive study of selected examples to be particularly useful for stimulating new insights and for suggesting alternative courses of action. A clear distinction needs to be made between what is labelled the case study approach and the analysis of examples which was the approach for the field studies. The heuristic quality of the latter approach is stressed since the analysis is aimed at stimulating insights. In addition, while the case study focuses on records of a particular agency or organization, the analysis of examples deals with an intense study of selected instances in which the phenomenon is an interesting and innovative example. This method not only involves the examination of records, but it also involves unstructured interviews and observations. In this project, the examples analyzed are selected local governments which have developed and are implementing innovative organizational and programmatic actions for managing the environment. The analysis of examples provides a more comprehensive and accurate picture of environmental programs.

The primary source of data is four field studies conducted during the spring, 1973. In selecting local governments with innovative environmental management programs, the following criteria were utilized:

--more than one well developed environmental program (i.e., environmental quality standards, environmental impact assessment, environmental planning, etc.)
--adopted organizational changes to deal with environmental problems (i.e., citizen advisory boards, "mini" EPA, administrative committees, intergovernmental agreements, etc.)
--geographical representation with local governments from the east, midwest, south and west
--representation of various sizes and types of local governments
--cooperative attitudes of local government officials
--representation of different types of environment problems (i.e., water, air, solid waste, wastewater, noise, etc.)
--one regional effort
--project budget limitations

After reviewing the environmental programs in numerous cities and after consultation with their staffs, the following local governments were visited by research teams:

--Dallas, Texas
--Inglewood, California
--Miamisburg, Ohio
--Piedmont Triad (Greensboro-Winston Salem area), North Carolina

In order to aid the reader in understanding the research and to provide overall focal points for the analysis of the four field studies, a brief research design is presented. The analysis is on two levels: (1) an overview of local programs for managing the environment, and (2) an in-depth analysis of specific environmental management strategies. The basic research questions are:

- --What is considered in the term "environment"?
- --What is environmental management?
- --What environmental programs have been developed and implemented by local governments?
- --What stimulated the action by local government in the environment?
- --How effective have the environmental programs been in improving the quality of the environment?
- --What problems have local governments had in their environmental programs?
- --What organization changes have taken place in local governments as a result of environmental considerations?
- --What suggestions can be made for future local environmental management programs?

Although these questions provide a broad focus, the investigators need a list of variables and related research questions on which they can concentrate their attention (see Appendix D). Seven basic variables were used: (1) the general condition of the environment (living and physical), (2) the attitudes and opinions of the community toward the environment, (3) the political and legal context of the local government, (4) the environmental policies, (5) the administrative organization for environmental affairs, (6) strategies for environmental management, and (7) the intergovernmental relations in environmental management. This list is not designed to be totally comprehensive since there were unique features for each field study. However, each investigative team included all variables in their investigation. When the research teams were pressed for time, the emphasis was placed on the analysis of the environmental management strategy and its viability.

The field studies were conducted by research teams. Each team was composed of one project staff person, who served as head of the research team; a member of the Environmental Management Advisory Board*: and a member of the ICMA staff. The project staff person had the responsibility of collecting all material and writing up the results.

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*Environmental Management Advisory Board consists of Douglas Ayres, City Manager, Inglewood, California; Richard Gray, City Manager, Norman, Oklahoma; Bert Johnson, County Manager, Arlington, Virginia; and John Laney, City Manager, Miamisburg, Ohio.

FIELD STUDY CONDUCT

Each of the research teams followed the same procedures in conducting its investigation. First, in order to have a successful field study, the research team members prepared themselves by becoming familiar with information about the local government and its environmental programs. The groundwork helped in establishing friendly relationships with the local government officials which facilitated the free flow of information. The relationship was established as far ahead as possible, at least one month ahead of the visit. This entailed the project staff interviewing by phone the chief administrator in order that problems could be worked out ahead of time, interview schedules established, and information gathered. Each team member had the responsibility for familiarizing himself/herself with the organization and documents forwarded to him, particularly administrative reports, legislation, newspaper articles and budgets. In addition, a tentative interview schedule was prepared by the project staff and distributed ahead of time.

Second, a meeting of the research team was held the evening before the field study was to commence. In some cases, it was advantageous to invite the local administrator or his representative to part of the meeting so any preliminary questions could be resolved early. At that time the team would follow this prescribed agenda:

--get acquainted
--identification of tasks
--distribution of tasks
--review of background material with a brief session by project staff
--identification of critical variables
--finalization of interview schedule
--clarification of field study goals
--development of questions for interviews

This meeting was critical to the success of the project. The investigative plan developed at this meeting was continually re-evaluated and revised as the field study progressed.

Third, the next two days were used for conducting the field study. The data for the field study were collected primarily through interviews, although members of the research teams did attend some meetings as observers. However, the procedures varied in each field study from informal interviews to a formal presentation by the local chief executive and his staff; one meeting included a tour of a local wastewater treatment plant. Since not every official within the community could be interviewed, the research teams did attempt to interview an individual from each of the following categories:

--local politician,either mayor or city councilman
--chief administrator and his staff

--members of citizens' advisory board
--newsman from the local paper
--planning department
--environmental staff
--public works department
--representatives from the business community (Chamber of Commerce)
--county and regional governmental officials

After the field study was completed, the research team would meet briefly to review their work. At this time, materials would be collated and the write-up discussed. Each team member prepared a summary of his/her views and ideas generated from the field visit.

Fourth, after collecting the material from the research team, the project staff member was responsible for writing up the case study. Emphasis was placed on identifying unique programs and evaluating their effectiveness in promoting environmental quality. In addition, problems were identified and possible solutions suggested. A draft study was written and sent to research team members and local government officials involved in the field visit for review and comment. When the comments were received, a final field study report was prepared. The final reports for Dallas, Inglewood, Miamisburg and Piedmont Triad can be found in the following sections.

Since some organizational changes and environmental programs were not covered during the four field studies, additional data was used later to fill in the knowledge gaps. The primary source of this supplemental information was the materials returned with the survey questionnaire. A second source was materials collected in conjunction with the National Conference for Managing the Environment. Many local officials who participated provided meaningful examples of innovations in local environmental management. Finally, the International City Management Association has compiled an extensive file on local government programs based on materials sent to the Association by its members.

Like any other research strategy, not all social researchers agree with the use of examples. The fact that these investigations are taking place after many events have occurred upsets "purists" in social research. They claim that the investigations lack scientific credibility since there is no manipulation of variables. Because of the possibility of criticism, research teams kept in mind the following potential weaknesses in order to minimize them:

--The investigators had to avoid wandering into other interesting features which were totally irrelevant to the example being analyzed. The focus on local environmental management was emphasized even though the local government had undertaken other interesting programs.
--There was a general lack of precision with which the situation was being viewed. The investigator had to avoid letting his own prejudices and values bias his observations.

- --Casual relations and inferences were avoided. The investigators tried to avoid drawing the conclusion that because certain events preceded governmental action that these events caused governmental action. For example, occurrence of an environmental crisis may or may not have caused the development of environmental programs. These programs may have been considered and action taken before the crisis.

It should be stressed again that the analysis of examples leads to insights and suggestions for future actions and should not be construed as a test or generalization of effectiveness. Each case has its own unique features and special characteristics which make it atypical. Although these cases have yielded much fruitful information, there are risks in making any generalizations based entirely on the analysis of four examples. The remainder of this chapter integrates and analyzes the findings of these four field studies.

B. Local Organization for Environmental Management

There are three aspects of organizing for environmental management: (1) local internal organizational structure; (2) structure for citizen participation; and (3) intergovernmental structures and arrangements. With the rapid expansion of environmental concern and activity at the local government level, traditional organizational arrangements may not prove to be adequate. A traditional internal organization for dealing with environmental concerns would include several distinct departments and divisions based on function, such as refuse, water, sewage treatment, and land use planning, with no one place where all environmentally relevant functions are brought together for coordination or integration.

The local organization pattern for citizen participation is similarly diffuse, in that opportunities for continuing involvement traditionally have been in the form of board and commission activity. Environmental concerns may be fragmented between several citizen boards, e.g., planning commission, beautification committee, parks and recreation board, and therefore no focus exists for citizen concern about the environment.

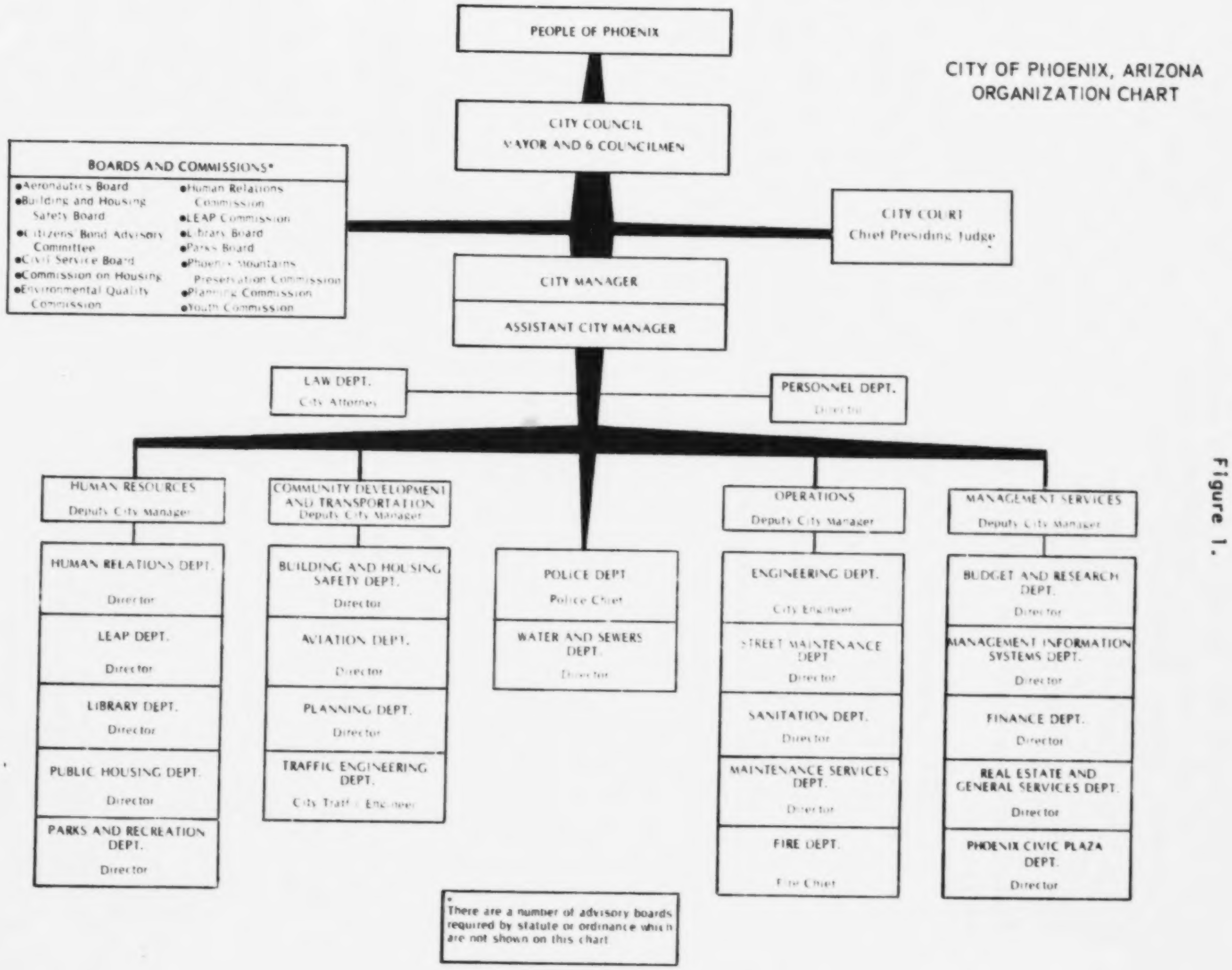
Because of the regional nature of many environmental problems, areawide solutions or efforts are often needed. Unfortunately, in most areas there is no accepted regional organizational structure within which to address these problems. Local governments are increasingly forced to seek solutions through regional systems, although many of the existing regional systems are not well developed.

As a result of perceived inadequacies in the three areas, some local administrators have taken steps to organize themselves more effectively to implement environmental programs. In responding to the organizational dilemma, local managers consider the following factors: (1) political pressures from environmental groups, business interests, civic groups, and other interested citizens; (2) legal requirements, particularly state laws governing the actions of local governments, (3) personalities in the organization; (4) financial abilities of the local government, including tax limitations, and, (5) staff capabilities, particularly their skills in environmental management. To illustrate the organizational approaches utilized by local governments, examples are drawn from the four case studies relating to internal organization, citizen boards and commissions, and intergovernmental relations. Other examples are used where appropriate.

INTERNAL ORGANIZATIONAL STRUCTURE

As mentioned above, under the traditional structure of local governments, environmental functions usually are dispersed through several departments and agencies (see Figure 1). Such traditional structures

Figure 1.


CITY OF PHOENIX, ARIZONA
ORGANIZATION CHART
PEOPLE OF PHOENIX
CITY COUNCIL
MAYOR AND 6 COUNCILMEN
BOARDS AND COMMISSIONS*
●Aeronautics Board
●Building and Housing Safety Board
●Citizens' Bond Advisory Committee
●Civil Service Board
●Commission on Housing
●Environmental Quality Commission
●Human Relations Commission
●LEAP Commission
●Library Board
●Parks Board
●Phoenix Mountains Preservation Commission
●Planning Commission
●Youth Commission
CITY COURT
Chief Presiding Judge
CITY MANAGER
ASSISTANT CITY MANAGER
LAW DEPT.
City Attorney
PERSONNEL DEPT.
Director
HUMAN RESOURCES
Deputy City Manager
HUMAN RELATIONS DEPT.
Director
LEAP DEPT.
Director
LIBRARY DEPT.
Director
PUBLIC HOUSING DEPT.
Director
PARKS AND RECREATION DEPT.
Director
COMMUNITY DEVELOPMENT AND TRANSPORTATION
Deputy City Manager
BUILDING AND HOUSING SAFETY DEPT.
Director
AVIATION DEPT.
Director
PLANNING DEPT.
Director
TRAFFIC ENGINEERING DEPT.
City Traffic Engineer
POLICE DEPT.
Police Chief
WATER AND SEWERS DEPT.
Director
OPERATIONS
Deputy City Manager
ENGINEERING DEPT.
City Engineer
STREET MAINTENANCE DEPT.
Director
SANITATION DEPT.
Director
MAINTENANCE SERVICES DEPT.
Director
FIRE DEPT.
Fire Chief
MANAGEMENT SERVICES
Deputy City Manager
BUDGET AND RESEARCH DEPT.
Director
MANAGEMENT INFORMATION SYSTEMS DEPT.
Director
FINANCE DEPT.
Director
REAL ESTATE AND GENERAL SERVICES DEPT.
Director
PHOENIX CIVIC PLAZA DEPT.
Director
* There are a number of advisory boards required by statute or ordinance which are not shown on this chart

have led to problems of coordination between departments in several other areas in addition to the environment. However, the environmental area is perhaps more sensitive to this problem because of its interrelated nature. For example, the disposal of solid waste through incineration may in turn cause an air pollution problem. There is a need, therefore, to achieve collaboration between people engaged in environmental activities throughout all departments and levels. Generally, this means the development of specialized staff. Depending upon the needs of the local government, and the role created for the staff, the responses may range from a single individual assigned environmental duties on a part or full time basis to a department with 21,000 employees as in New York City's Environmental Protection Agency.

There are two primary questions for organizing environmental management:

1. Which program areas are to be coordinated, e.g., air pollution control, water supply, sewage treatment, solid waste collection and disposal, parks and recreation, flood control, noise control?

2. Which functions are to be coordinated, e.g., data collection and analysis, program development, planning, operation, contact with other governmental units, response to citizens inquiries?

In the following sections of this chapter, three approaches to providing specialized staff are examined: (1) expansion of the functions of an existing agency; (2) creation of a new agency solely with environmental functions; or (3) formation of a staff committee or task force.

Expansion of an Existing Agency to Include Environmental Functions

Instead of creating a totally new environmental agency, a number of municipalities have expanded the responsibilities of existing departments. In 1970, Inglewood, California established an Environmental Standards Division (ESD) which was originally placed in the Building Department, although reporting directly to the City Manager. Subsequently, a second reorganization placed the Environmental Standards Division in the Planning and Development Department. The rationale behind its creation was:

--the manager wanted environmental considerations to become institutionalized in departmental decision making, as opposed to having responsibility for the environmental considerations reside in a single department
--because of the diffused environmental concern, cooperative instead of adversary relationships could more easily be created between departments
--the placement of ESD in the Planning and Development Department should assure the environment being considered early in decision making processes

--the Planning and Development Department had many skills needed in environmental protection, and the creation of a separate department would result in considerable overlapping of functions and skills

--a new environmental department would face the problems of any new department particularly in establishing relations with other departments

--the manager's approach for acquiring environmental expertise was to train existing staff with current staff in the Planning and Development Department having the proper mixture of economic realities and environmental necessities

--the City of Inglewood is small enough for the environmental function not to overwhelm the Planning and Development Department

Today, the Environmental Standard Division has the primary responsibilities for the environmental assessment process as well as monitoring and enforcing noise level standards. Other environmental programs, notably solid waste collection and water and sewer, remain in the traditional departments.

A similar situation exists in Dallas, Texas where the coordination function resides principally in the city manager's office, although an environmental planning section in the Urban Design Division provides staff assistance. Other responsibilities for environmental management are spread through several other departments, including:

. The Public Works Department, containing programs for solid waste collection and disposal and recycling
. Air Pollution Control Section of the Health Department with the responsibility for enforcing air quality regulations
. Water Quality Section of the Health Department, with responsibility for enforcing water quality standards
. Environmental Conservation Administration of the Health Department
. Water Utilities Department, which operates a demonstration treatment plant aimed at water reclamation, and conducts research in cooperation with Texas A and M University on waste water treatment

Attempts to accomplish a more comprehensive reorganization have been hampered by state laws which require air and water pollution control functions to be placed in the Health Department under the direction of a physician.

Creation of Local Environmental Agency

Other municipalities have created separate organizational entities for environmental management. These may take the form of either staff or line agencies. Although none of the field study cities had created a separate agency, some brief examples are given.

In 1968, New York City created a separate line agency containing bureaus for air, water and sanitation. This agency has a staff of over 21,000 employees and a current operating budget of $500 million. The New York City EPA has equal status with other municipal departments with its primary role being that of an environmental advocate. Paul Zimmerman, First Deputy Administrator has pointed to two strengths for creation of a separate agency: (1) development of staff expertise; and (2) long range view of environmental problems and matters of ecological perspective.* Other advantages of this approach include: (1) consolidation of fragmented activities; (2) reduction of proliferation of boards and commissions; (3) increased public visibility of a new department; (4) increased accountability on environmental matters; and (5) facilitation of administrative efficiencies.

As an alternative to the newly created line environmental department, many municipalities have established a separate staff agency. Although the size and placement within the organization may vary, this staff agency generally has the responsibilities of research, program planning and development, program coordination, advise on environmentally related matters, and liaison with other governmental bodies and community groups. An example of this approach can be found in Fairfax County, Virginia.

In a report to the Fairfax County executive, the line approach was rejected because "concern with environmental quality is not a function or activity, but a dimension or aspect of many activities."+ A projection of the content of a line environmental department in Fairfax County can be seen in Figure 2. Reasons for not creating this department included: (1) the department would be so large and contain sufficiently diverse elements as to be unmanageable; (2) personnel with environmental duties also have non-environmental responsibilities. Rather, a staff agency was recommended in order to: (1) provide an agency concerned with the overall environment; (2) serve as a focal point for citizens; (3) coordinate environmental programs, (4) maintain familiarity with environmental information; and, (5) provide a general, continuing review and evaluation of county policies, programs and operations as they relate to the physical environment.

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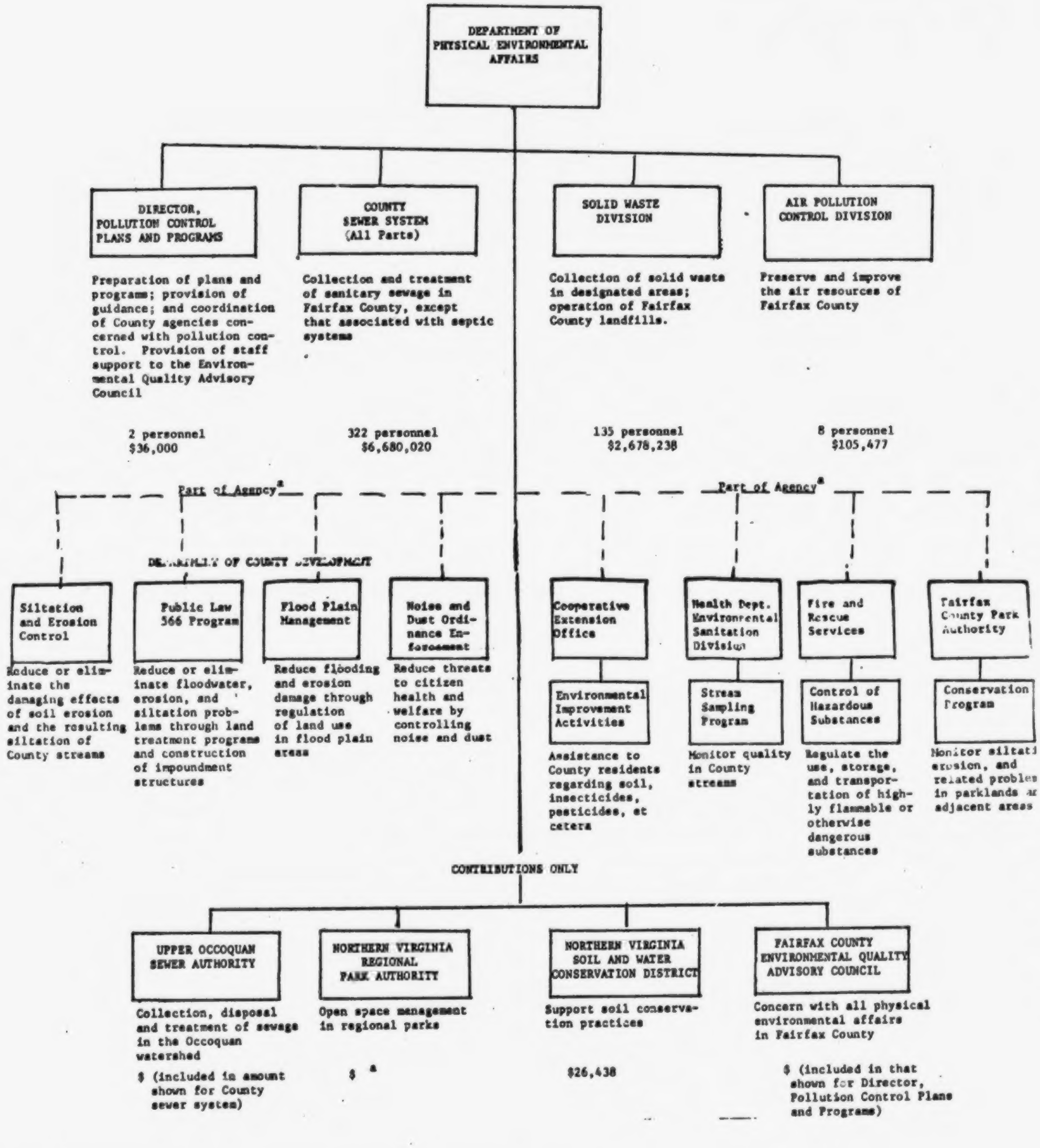
*Speech by Paul Zimmerman at the National Conference on Managing the Environment, May 14, 1973.

+Report on the need in the Fairfax County government for a governmental function charged with responsibility for those physical environmental affairs...July, 1972.

EXHIBIT I.

HYPOTHETICAL ORGANIZATION CHART



DEPARTMENT OF PHYSICAL ENVIRONMENTAL AFFAIRS

DIRECTOR, POLLUTION CONTROL PLANS AND PROGRAMS

Preparation of plans and programs; provision of guidance; and coordination of County agencies concerned with pollution control. Provision of staff support to the Environmental Quality Advisory Council

2 personnel
$36,000

COUNTY SEWER SYSTEM (All Parts)

Collection and treatment of sanitary sewage in Fairfax County, except that associated with septic systems

322 personnel
$6,680,020

SOLID WASTE DIVISION

Collection of solid waste in designated areas; operation of Fairfax County landfills.

135 personnel
$2,678,238

AIR POLLUTION CONTROL DIVISION

Preserve and improve the air resources of Fairfax County

8 personnel
$105,477

Part of Agency[a]

DEPARTMENT OF COUNTY DEVELOPMENT

Siltation and Erosion Control

Reduce or eliminate the damaging effects of soil erosion and the resulting siltation of County streams

Public Law 566 Program

Reduce or eliminate floodwater, erosion, and siltation problems through land treatment programs and construction of impoundment structures

Flood Plain Management

Reduce flooding and erosion damage through regulation of land use in flood plain areas

Noise and Dust Ordinance Enforcement

Reduce threats to citizen health and welfare by controlling noise and dust

Part of Agency[a]

Cooperative Extension Office

Environmental Improvement Activities

Assistance to County residents regarding soil, insecticides, pesticides, et cetera

Health Dept. Environmental Sanitation Division

Stream Sampling Program

Monitor quality in County streams

Fire and Rescue Services

Control of Hazardous Substances

Regulate the use, storage, and transportation of highly flammable or otherwise dangerous substances

Fairfax County Park Authority

Conservation Program

Monitor siltati erosion, and related proble in parklands a adjacent areas

CONTRIBUTIONS ONLY

UPPER OCCOQUAN SEWER AUTHORITY

Collection, disposal and treatment of sewage in the Occoquan watershed

$ (included in amount shown for County sewer system)

NORTHERN VIRGINIA REGIONAL PARK AUTHORITY

Open space management in regional parks

$ [a]

NORTHERN VIRGINIA SOIL AND WATER CONSERVATION DISTRICT

Support soil conservation practices

$26,438

FAIRFAX COUNTY ENVIRONMENTAL QUALITY ADVISORY COUNCIL

Concern with all physical environmental affairs in Fairfax County

$ (included in that shown for Director, Pollution Control Plans and Programs)

TOTAL AMOUNTS: 467 personnel[b]
$ 9,526,173[b]

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[a] Note: No data is presented regarding the staffing and cost of these programs, because in each case the personnel involved have other duties and responsibilities as well.

[b] Totals do not include staffing or costs for programs indicated by "a". It should be understood, however, that these programs would require significant amounts of resources, were they assigned to the hypothetical department.

Administrative Committee

A third approach for achieving a more effective organization for environmental affairs is the creation of an administrative committee, task force, or administrative council. The City of Ann Arbor, Michigan created an Administrative Environmental Committee for the purposes of (1) overseeing environmental programs and other city operations which might have an effect on the environment, (2) setting standards for environmental control, and (3) investigating and reporting at the request of Council or Administrator on environmental issues related to city services. The committee, which is chaired by the Assistant City Administrator for Environmental Engineering, is composed of the heads of operating departments.

Another variation to the administrative committee has been the team management approach of Metropolitan Government of Nashville/Davidson County. With the aid of a Ford Foundation grant, the Environmental Planning and Management Project started in July, 1972, with the purpose of experimenting with the use of management teams for better environmental management. The management team consists of five individuals representing the major environmental agencies of the Metro Government, the executive director of the Metro Planning Commission, the planning director of Metro Planning, the director of the Department of Health, director of Public Works, and the director of the Department of Law. In addition, a three member top management team for the project was created with a representative of local government (an assistant to the mayor), chairman of the Nashville Area Chamber of Commerce, and professor for the Graduate School of Management, Vanderbilt University. These two groups coordinate the concerns, the ideas, and capabilities of local government, business, industry, and citizens. The teams have focused on such issues as the meat packing plants and their violation of the Waste Water Ordinance and completion of a hydrogeology and water quality analysis of a landfill.

Although there seems to be some consensus on the need to establish some environmental unit to serve a coordinating or integrating function, the specific form adopted depends upon the unique needs of each local government. In small cities it may be possible for the chief executive to fulfill this need. Examples of other local governments' organization for environmental management can be seen in Figure 2.

BOUNDARY SPANNING PROCESSES FOR CITIZEN PARTICIPATION

Boundary spanning processes encompass those activities and structures used by organizations to achieve direct contact between governmental officials and clientele groups and individuals. In the past, local governments have relied on voting in elections, public hearings, and open public meetings and citizen commissions. However, recent environmental legislation at the federal level has stressed the development of new mechanisms for securing citizen input. Two prominent examples of increased public participation result from the environmental impact statement process set forth in the National Environmental Policy Act of 1969, and from the 1972 amendments to the Federal Water Pollution Control Act.

Some local governments have been reluctant to develop means for citizen input on environmental matters, claiming that:

a. citizens lack the technical expertise and knowledge to deal with complex environmental problems;

b. citizens' past experiences with boards and commissions have not proven to be very effective means for securing a broad sense of the community's position on issues; and

c. significant citizen input may increase uncertainty within the organization which may result in a decrease in organizational effectiveness.

In addition, where mechanisms for citizen input have been developed, many local governments have given them minimal power and authority and inadequate staff support.

Yet, most municipalities have met with greater success and tangible benefits from public participation. This section analyzes some of the popular mechanisms for citizen participation in environmental matters, notably citizen boards and commissions. In the past local boards concerned with environmental matters were quasi-judicial boards involved in air or water pollution control. Recently boards have broadened their perspective of the environment. Examples follow of how these boards are organized, including expansion of existing boards, creation of new boards, and use of conservation commissions.

Expansion of Existing Board

Instead of creating a new environmental board or commission, existing boards and commissions in many cities have been modified to more effectively deal with environmental issues. The rationale behind the restructuring is as follows:

1. to avoid further proliferation of citizen boards in the local government.

2. to reduce the number of citizens' boards

3. to avoid possible overlapping of environmental related functions

4. to integrate environmental concerns with other functions of local governments.

FIGURE 2. EXAMPLES OF LOCAL GOVERNMENTS ORGANIZATION FOR ENVIRONMENTAL MANAGEMENT

Environmental Coordinator

Addison, Illinois
University City, Missouri
Manhattan Beach, California
San Jose, California

Environmental Planner

Phoenix, Arizona
Lakeland, Colorado
Norman, Oklahoma
Waco, Texas

Environmental Section

Austin, Texas	Office of Environmental Resource Management
Inglewood, California	Environmental Standards Division
Palo Alto, California	Environmental Planning Office
Montgomery County, Md.	Environmental Planning Office
Fairfax County, Virginia	Office of Environmental Affairs

Environmental Department

New York City, N. Y.	Environmental Protection Agency
Huntington, N. Y.	Environmental Protection Agency
Simi Valley, California	Environmental Services Department
Chicago, Illinois	Department of Environmental Control
Washington, D. C.	Department of Environmental Services
San Diego County, Ca.	Environmental Development Agency
Los Angeles, California	Environmental Quality

Environmental Task Force or Committee

Ann Arbor, Michigan
Nashville/Davidson County, Tennessee
Volusia County, Florida

In Guilford County, North Carolina, board members were appointed based on their expertise. In March, 1973, the County Commissioners created the Guilford County Advisory Board for Environmental Quality (GCABEQ) as a permanent board. Its purposes were:

1. to provide technical information and supplemental advice to Guilford County Board

2. to aid governmental units to maintain and/or improve environmental conditions, and

3. to assure safe, healthful, and aesthetically pleasing surroundings for all inhabitants, present and future.

County board members felt the county lacked the internal expertise to handle many environmental problems, and therefore turned to the resources and expertise in the community. Fortunately, within the County are two colleges where some of the expertise could be found -- North Carolina A & T and the University of North Carolina, Greensboro. The members of the BEQ are appointed by the County Board of Commissioners for initial terms of 1, 2, or 3 years with succeeding appointments for 3 years. The BEQ is composed of one each of the following specialists: -- air resources, water resources, land resources, vascular plants, societal affairs, aesthetic concerns, urban technology or public health, legal affairs or economics, and public communications or education.

In addition to the ten members, a Community Liaison was appointed for a one year term by the County Commission to act as a go-between with the BEQ and other community groups, particularly ones interested in environmental affairs. This person disseminates information, encourages citizen groups to recognize and use BEQ, and channels information from citizen groups to BEQ. The BEQ is supported by one staff member of the Planning Department.

Rather than creating a permanent board or commission, many local governments have established environmental advisory committees for a specified length of time and a definite objective. Such advisory committees usually are charged to study environmental problems and make recommendations to the legislative body.

The City of Dallas was the only community in the field studies which utilized a temporary advisory committee. The newly elected Dallas Mayor, having based his campaign on law and order and the environment, appointed a 3-man Council committee in July, 1971, to study the feasibility of creating a City Environmental Quality Board. He further suggested that it have approximately 8 members, including 1 high school and 1 college student, at least 2 from industry, and the remainder from the general public. On September, 1971, this committee reported its recommendations, in which it supported establishment of a 15-member committee whose membership would be drawn from those in the city with useful knowledge and expertise, e.g., Architects, Planners, Landscape Architects, Engineers, Medical Societies, Home Builders, Real Estate, Professionals, Industry, Environmental Organizations, League of Women Voters, A.A.U.W., High School Students, College Students. Their term of office was to cease on June 1, 1972 upon completion of their report. Their general objective was to develop a city-wide environmental policy considering water quality, air quality, noise pollution, visual pollution, open space, land use, population, and solid waste. In addition, the report identified the following tasks:

1. Assessment of environmental preservation action and improvements accomplished or in progress.

2. Identification of instances where environmental improvements can be made.

3. Inventory and documentation of community environmental problems, ranking them in order of severity of effects on residents.

4. Identification of needs for:
   a) research, experimentation and expanded special environmental projects;
   b) planning strategies;
   c) programs for public information

5. Definition of an appropriate city role in the solution of environmental problems.

6. Submission of recommendations for new and additional ordinances and regulations for environmental improvements.

7. Development of recommended changes in city procedures, programs, or activities that contribute to our environmental problem.

8. Suggestions as to means of creating an awareness of environmental problems throughout the community, and lastly,

9. Identification of opportunities for community cooperation, inter-agency cooperation and intergovernmental cooperation in programs to improve the environment.

On September 27, 1971, the City Council passed an ordinance virtually identical to the recommendation. In January, 1972, the Council passed a new ordinance repealing the earlier one, and making the following modifications: (1) a tenth task was added allowing the CEQB to bring in other related matters which might aid the City Council; (2) a six month life span from date of swearing in; and, (3) an increase in membership to seventeen.

Among the cities studied, the City of Inglewood purposely expanded existing boards to encompass environmental concerns. In August, 1971, in response to political considerations, a desire to streamline the appeals process and some environmental problems, the Planning Commission, Board of Zoning Appeals, Board of Building Appeals, and Board of Fire Appeals were dissolved. Their functions were reconstituted into a five-member Planning and Zoning Board and a five-member Construction Appeals Board. The two boards combined form the Community Environment Commission (CEC) which is mandated to meet quarterly, or on the call of the chairman which rotates quarterly between the two board chairmen.

Figure 3.

Organization of Environmental Board in Inglewood

Community Environment Commission	
Planning and Zoning Board	Construction Appeals Board

Each councilman and the Mayor names one member of each board. No particular emphasis is placed upon their expertise or concern for the environment. However, city officials expect the CEC members to develop some degree of environmental expertise. The primary function at the present time is taking appeals on local environmental impact statements.

In another example the City of St. Petersburg abolished the Planning Commission and created in its place a new environmental board.

Existing boards and commissions may automatically and unofficially expand their concerns to include the environment as it relates to their primary charge, e.g., zoning, in response to public interest.

Creation of a New Environmental Board

The creation of a new citizen board by local governments has been a popular approach for increasing citizen input. Two alternative types of membership are used, depending on the purpose of their creation.

1. general or "representative" citizen input providing a broad view of community values on such issues as quality of life, physical and social environment, and

2. specialized technical expertise on environmental problems to provide resources presently unavailable to the local government.

None of the citizen boards in the field studies utilized a general membership advisory board on the environment.

With the assistance of three staff members from the Department of Planning and Urban Development, the CEQB distributed a questionnaire to city departments followed by oral testimony, survey of local environmental and community groups, and held two public hearings. Their report was not completed at the time of the preparation of this report.

A similar approach has been taken by the City of Cincinnati, Ohio where a Citizens' Environmental Task Force completed a year-long study of the city's environmental problems. The members of the Task Force were appointed by the Mayor and approved by the City Council based on their expertise in a specific environmental related area. Their task was to investigate air, water, noise, land use, solid waste, and energy problems. The Task Force organized themselves into sub-committees which were in charge of the report for a specific area. They all held at least one hearing, submitted interim status reports, and distributed minutes of meetings.

Additional examples of citizen environmental commissions can be found in Figure 4.

Conservation Commission

Another organizational approach for citizen participation, one used in Massachusetts, Maine, New Hampshire, Connecticut, Rhode Island, New York, and New Jersey, is the conservation commission. The commissions are authorized in state enabling legislation and municipal ordinances for the general purposes of land acquisition, coordination and planning for environmental protection. Examples of their activities include:

--coordinating body working with local environmental groups to preserve the natural environment
--serving as a focal point for organizing environmental projects
--acquiring property on approval of the appropriate governing body, in the name of the municipality and administering use of that land.
--conducting studies and making recommendations.

The important differences which separate conservation commissions and regular citizen boards are state sponsorship, eligibility for state funding, and ability to acquire land.

INTERGOVERNMENTAL ARRANGEMENTS

Where many environmental problems transcend local political boundaries, regional or areawide solutions have received greater attention. Although there is seldom controversy over the desirability of addressing certain problems on a regional basis, controversy flourishes regarding how to structure regional approaches.

FIGURE 4.

EXAMPLES OF LOCAL CITIZEN ENVIRONMENTAL COMMISSIONS*

City	Temporary (T) Permanent (P)	Commission	General	Air	Waste	Solid Waste	Noise	Visual	Land	Recreation	Beautification	Environmental Health	Environmental Clean-up	Reporting Requirements
Annapolis, Md.	P	Annapolis Environmental Commission		+	+	+	+		+					Not Specified
Bethany, Okla.	P	Environmental Control Advisory Board		+	+	+	+							Minutes of Meeting
Duarte, Calif.	P	Environmental Control and Civic Beautification Commission	+								+			Not Specified
Westland, Mi.	P	Environmental Quality Commission	+								+		+	Not Specified
La Grange, Ill.	P	Environmental Quality Control Commission	+											Annual
Austin, Texas	P	Citizens' Board of National Resources and Environmental Quality	+							+	+	+		Not Specified
Manhatten, Kansas	P	City Environmental Board	+	+	+		+	+						Annual
Phoenix, Ariz.	P	Environmental Quality Commission	+											Not Specified
Bowie, Md.	P	Commission for Environmental Quality	+	+	+				+					Quarterly
Edina, Minnesota	P	Environmental Quality Commission	+											Not Specified

*Information obtained from the municipal ordinances establishing the commissions

While regional systems to meet environmental needs are not new (Boston initiated a regional water system in 1889), they have not been prevalent until the last decade. The reasons for the upsurge in regional arrangements include: (1) more obvious benefits to local governments, such as cost savings and (2) new state and federal regulations and financial incentives. A variety of regional approaches have been developed, including intergovernmental agreements, regional planning commissions, councils of governments, special districts, functional planning bodies, consolidated city/county forms, metropolitan federations, and compacts.

The key factors influencing local participation in regional programs include: (1) Is it technically feasible? (2) What program functions (e.g., planning, financing, operations) get regionalized? (3) Who controls the regional system? (4) How much will it cost? (5) What level of service will it provide, and (6) How strong are the pressures to regionalize? For a regional program to be successful, each individual jurisdiction must perceive the benefits received, such as lower unit costs to be greater than the costs the degree of control over local affairs relinquished. Four forms found in the cities studied will be discussed in the following text; namely intergovernmental agreements, regional planning commissions, councils of governments, and special districts.

INTERGOVERNMENTAL AGREEMENTS

Three examples of how agreements can be used in managing environmental programs are the Montgomery County (Ohio) Solid Waste Program, the Guilford County (North Carolina) Solid Waste Pulverization Program, and the air pollution control program of the Combined General Health District (Ohio).

Montgomery County Solid Waste Program

In 1970, most of Montgomery County, including Miamisburg, initiated a comprehensive solid waste program by agreement. Prior to the program's creation, improper landfill operations, a dwindling supply of land, and growing concern about ground water contamination from landfills were problems pressing for attention. At the same time the county began investigating the use of incineration, the City of Dayton decided that its own incinerator needed to be replaced. Subsequently, a consultant study for the Montgomery County Health Department made the recommendation that a countywide disposal system be established where solid waste would be collected and transported via transfer stations to incinerators for disposal. It was further recommended that the incinerators be owned and operated by the county because of its greater borrowing power. The study proposed that two incinerators be constructed initially.

The system is presently operated by the County Sanitation Department, under service agreements with the local governments in the County. Generally, the agreements cover all solid waste with the possible exception of some materials that are part of recycling programs. Seven of thirteen municipalities in the County have formal contracts. The remaining six cities participate and pay on a fee basis. The cost per ton is the same.

The agreements also provide for an Advisory Board to the program made up of six members; one appointed by the County, one by the City of Dayton, one each by the Montgomery County Mayor's and the Manager's Associations, one by the Dayton area Chamber of Commerce, and one by the recognized association of refuse haulers. While the stated purpose of this group is to resolve problems, in practice there is some question as to its effectiveness.

The original cost of refuse disposal at the incinerator was $3.50 per ton. Until recently haulers were charged $7.90 per ton. Now, however, the rates have increased dramatically to $12.50 per ton. Although the county subsidizes the operation by 42 cents on every ton, rates may have to be increased even more to meet the costs of new capital equipment required to meet new air quality standards. This financial problem threatens the viability of this cooperative system.

Guilford County Solid Waste Pulverization Program

In 1972, Guilford County, the City of Greensboro, and the City of High Point signed an agreement for a cooperative solid waste processing and disposal program. Two years before, Guilford County had recognized inadequacies in the solid waste programs within the county and proposed a Tri-Governmental Solid Waste Committee (TGSWC) to attack the problem and develop a common solution. In December 1970, TGSWC was formed. Its membership represented the elected and administrative personnel from each of the jurisdictions.

The staff immediately began to investigate individual problem areas. Sample weights of loaded municipal vehicles were taken; estimated volume capacities and weight calculations were made on private collection vehicles; local areas of private service were better defined; differences in the two municipal policies and procedures were clarified; time and distance studies were made on all collection vehicles; and the characteristics of local solid wastes were determined. For the first time, a clear picture of the total, countywide solid waste generation, collection, and disposal situation became available. After reviewing alternative means of disposal, the Committee decided to initiate a pulverization system. To finance the system, bonds for pulverization equipment were voted by the respective electorates, winning by better than 4 to 1.

During the frequent meetings in July, August, and September, 1971, the staff prepared a detailed policy and procedures manual, which included the role and responsibility of each government. Also included in this manual were estimated capital outlay per installation, estimated cost of operation, and proposed amortization schedule for each piece of equipment and structural component. Methods of disposal for special wastes not suitable for pulverization were investigated and included in the manual. A limited amount of resource recovery is also discussed in an addendum.

When a proposed draft was submitted to the elected representatives of the TGSWC in November of 1971, it quickly became evident that a serious disagreement existed between the County and one of the municipalities as to the source of operating revenue. The municipality proposed that the operating expenses of all three stations be funded through County tax revenue. To facilitate this estimated annual need of $250,000, a Countywide tax increase would have been necessary. The County was unwilling to authorize this increase for several reasons, primarily because of the disproportionate ratio between industrial generation of solid waste versus its real property value,and the fact that many rural citizens in the outlying parts of the County were without collection service and therefore would be paying for a disposal operation whether they could utilize it or not.

The problem was finally resolved in December, 1971, by deciding to weigh each collection vehicle as it delivered waste and bill its owner (be it public or private) at the end of the month on the basis of the actual cost per disposed ton times the actual tonnage delivered. A nominal fee also is charged to each private auto delivering domestic waste. Debt service on the capital facilities is to be met by the County from revenues derived from a County sales tax.

The Solid Waste Committee envisions a future consolidation of all installations under one agency (as originally proposed) as soon as Countywide collection is available. Such a collection program (probably a rural container system) is presently in the formulative stages. When this single agency (probably the County) assumes responsibility for the operation of all three installations, an annual disposal surcharge or fee will probably be levied to each home, business and industry (based on actual annual tonnage generated) in lieu of the monthly billing, to fund the year-to-year operations. The vehicles will then be weighed only for recordkeeping purposes.

Combined General Health District

In March 1971, the Montgomery County Combined General Health District was formed as agreements were reached with five counties and the City of Dayton for the expansion of the Montgomery County Health District air pollution program, to cover the entire five county area. Subsequently, the size of the Montgomery County Combined General Health District health board was expanded from five to nine members (including five from Dayton). However, the county health districts and most of the larger cities retained their own health boards. Thus, each policy change made by the Combined Health District must receive approval from each of the city and health district boards. A few communities, e.g., Oakwood, have maintained their own staff. However, they still contract with the Combined General Health District for the air pollution control program.

Originally, Health District funding was principally derived from charges levied against member jurisdictions. This limited source of revenue permitted few extensive or new programs. The development of the successful air pollution control programs by the Montgomery County Combined Health District was dependent upon outside funding. The current budget provides for a staff of approximately 30 and a total budget of approximately three-quarters of a million dollars.

Compared to the levels recorded to date in the records of air pollution data compiled over the years, the level of pollution has decreased in virtually every category since the advent of the District. Compliance generally has been achieved without major litigation, although often hearings before the board were necessary to confirm intent to enforce the standards. Perhaps one of the most innovative and unique efforts within the Regional Air Pollution Control Agency is an unusual combination of law enforcement and ecology that has resulted in an environmental patrol program. The overall strategy of the program has been to teach policemen to become environmentalists. Experienced police officers with an interest in ecology are trained to deal with violations of the "environment." Wearing green uniforms with an ecology patch on one sleeve and a gun on one hip, the environmental policemen patrol several neighboring counties watching out for flagrant environmental violations such as illegal dumping or potential health hazards such as rabid dogs. They issue citations similar to parking tickets that warn the abuser to correct the violation within five days or else appear in court.

REGIONAL PLANNING COMMISSIONS

The Miami Valley Regional Planning Commission (MVRPC) consists of five counties and 31 municipalities in the Dayton metropolitan area. These jurisdictions represent 97 percent of the regional population. Each county appoints two members to the Commission and each municipality appoints one. These members are predominantly elected officials.

Funds to operate MVRPC come from membership assessments, local money for special projects, and federal grants. Membership fees are assessed at a rate of 15 cents per capita (counties pay for unincorporated areas only). A few special projects for local agencies are funded separately. The balance of the budget has been derived from federal grants, primarily the HUD "701 Program."

In general, the goal of the Commission is to serve as a vehicle for coordinating policies and plans throughout the regional area. MVRPC's concern for the quality of the environment dates back to a "State of the Region Report" in 1966, where the problems of air and water pollution were summarized and the future impact projected.

The Commission's role in environmental management includes chiefly the following efforts: technical assistance, planning, A-95 review, and promotion of public participation. Planning efforts have included the development of a regional open space plan, water and sewer plan, bikeway plan, as well as other examples.

In the area of technical assistance, MVRPC maintains a small environmental staff available to member governments and their citizens. A report was prepared inventorying the natural resources in the region, forming the technical base for the consideration of other environmental programs. A status report on environmental quality critically evaluated programs in the region and recommended actions to be taken. Also, assistance has been provided for the preparation of environmental impact statements.

MVRPC provides the A-95 review for federal projects in the region and a similar review for state projects. The primary purpose of this review is to ensure that state or federally funded programs in the region correspond to regional planning efforts. The review carries with it the sanction of withdrawing approval for projects, and this was used in the case of two small municipalities only a few miles apart that planned to construct separate sewage treatment facilities.

Finally, in the area of promotion of citizen participation, the Commission has provided staff resources to assist citizen groups and developed an aggressive public information program.

In addition to these services, the regional planning commission provides a non-threatening forum for the discussion of issues on a regional basis and as such encourages cooperative regional solutions to problems.

COUNCIL OF GOVERNMENTS

In the North Carolina field study, the Piedmont Triad Council of Governments (PTCOG) also had actively participated in local environmental management. First, PTCOG added an environmental planner to their staff. Second, it has participated in reviewing and commenting on environmental impact statements through the A-95 process. Third, PTCOG has provided some technical assistance to Winston-Salem and Forsyth County in developing an administrative process for local environmental impact assessment. Finally, PTCOG created the Regional Piedmont Triad Committee on Environmental Affairs (RPTCEA) consisting of forty individuals from the community. Plagued by a problem of integrating the diverse task force reports, however, the RPTCEA was abolished.

In the Dallas-Ft. Worth area, the North Central Texas Council of Governments (NCTCOG) has played an active role in environmental management. Besides the normal role of regional planning and participation in the A-95 process, NCTCOG contracted for a plan of a comprehensive sewerage system for their ten county area. The study area, however, extended beyond the boundaries of NCTCOG and focused upon the Upper Trinity River Basin which included portions of an additional 11 counties. The area of the study covered 11,000 miles and 2.7 million population.

Six joint systems are to be established and operational relationships stipulated through the North Central Texas Regional Water Quality Compact; they would be drafted by officials of the affected cities and the joint systems operators. The proposed compact spells out the duties and responsibilities of the various levels of government.

One innovative organizational aspect is the formation of a Water Development Council which would provide overall guidance and direction for the Regional Sewerage Plan. The 21 member Council is to be composed of 6 representatives from the two Dallas systems (3 selected by the operators, and 3 nominated by the System Customer Council with confirmation of the system operator), 4 from the Ft. Worth system (2 operators and 2 customers), 4 from the Trinity River Authority systems (2 operators and 2 customers), 3 from the other systems (1 operator and 2 customers); these 17 members plus 4 from the region at-large would be appointed by the Executive Board of NCTCOG. The creation of this council, by giving continuing opportunity to the participating jurisdictions to influence decisions, substantially contributed to the success of the project.

SPECIAL DISTRICTS

During the course of the field studies, two special districts created by states were analyzed, the Miami (Ohio) Conservancy District and the Trinity River Authority in Texas. This section examines the Ohio example, and also the Regional Anti-Pollution Authority in the Coachella Valley in California, which was voluntarily created by local municipalities.

In response to the destructive flood of 1913, the Ohio legislature passed the Ohio Conservancy Act creating the Miami Conservancy District (MCD) as a subdivision of the state. The MCD has the power to levy assessments; borrow money; condemn land to provide flood protection; and plan, construct and maintain structures. The Conservancy District does not have the power to enforce regulations or to prosecute violators; state and local enforcement agencies perform those functions. The District's area of concern is defined by the geographical watershed of the streams and rivers involved. Responsibility for the District is in the hands of the Conservancy Court, which is made up of nine common pleas judges; one each from the Ohio counties included. A three-man board of directors is appointed by the Court to supervise the development and execution of the District's activities and responsibilities. These men appoint an operating staff for day-to-day management.

Originally, the Conservancy District had responsibility only for flood control. The flood control plan they developed provides protection from a storm 40 percent greater than the 1913 storm. However, MCD broadened its scope when it became directly involved in water quality after passage of the National Water Quality Act in 1965. A committee was formed under the sponsorship of the Dayton Chamber of Commerce representing all permit holders (including industries, counties and municipalities) as an act of resistance to the standards proposed for the Miami River. The District served in a technical advisory capacity to this committee. In 1967 the Conservancy District was charged by the State of Ohio with responsibility for planning developing and guiding an effective program for improving water quality in the District's watershed. The work to date has been financed mainly by six counties and 53 industries and municipalities holding Ohio permits to discharge wastes into the Great Miami River and its tributaries. In addition, substantial federal funds were provided by a grant from the Federal Water Quality Administration. A three year study resulted in the following programs: water quality management, stream appearance, in-stream aeration, low flow augmentation, regional treatment of non-aqueous wastes, and, regional wastewater treatment. Other tasks in the water quality area that the District is undertaking are building and operating two additional regional treatment plants and studying landfill contamination of ground water and the movement of pollution in aquifers.

Money to operate District programs comes from three sources: (1) flood control funds are obtained from a property tax collected for the District by the County Auditors; (2) water quality programs are funded by fees charged the discharge permit holders; and (3) wastewater treatment costs, e.g., the Franklin plant, are charged to the users through the City of Franklin.

The Conservancy District is an important example for the region because of the pattern of intergovernmental cooperation it has been setting for nearly sixty years. The District's intent has been to restrict itself to the field of water management, to avoid duplication of efforts, and to act as a service agency or resource for businesses and governments.

A unique approach to the formation of a special district has been undertaken by four cities in California--Desert Hot Springs, Indian Wells, Indio and Palm Springs. The threat of an oil refinery in a nearby mountain pass brought the cities together in a joint powers agreement to create the Regional Anti-Pollution Authority (RAPA). This voluntarily-formed special district is governed by a board of directors made up of two representatives from each city. A budget was prepared and a formula for a voluntary assessment based on assessed valuation and population agreed upon. In 1971-72, RAPA had a $55,655 budget supporting a total staff of three.

Among the additional activities the Authority has undertaken are: testimony on state legislation, analysis of local environmental regulations, citizen seminars on pollution, review of environmental impact statements, and public information. RAPA has been actively concerned with preserving the desert environment, and has promoted new controls, e.g., regulations on hillside development, aimed at this objective.

SUMMARY

Three aspects of organizing for environmental management were examined in this section: (1) local internal organizational structure; (2) structure for citizen participation; and (3) intergovernmental structure and approaches. Based upon the field studies, there seems to be considerable variety in arrangements utilized by local governments.

In relation to the internal organizational structure, environmental responsibilities have traditionally been dispersed throughout several departments, resulting in problems of coordination. Local governments have attempted to alleviate these problems by expanding an existing agency to include environmental functions, creating a separate environmental agency, or establishing an administrative committee. The principle factors in determining the approach to be adopted include: (1) which program areas are to be coordinated; (2) which functions are to be coordinated; and (3) which approach is most consistent with the organizational climate. The separate agency seems to promote an advocate role that may place it in an adversary relation with other departments. The desirability of this depends upon the particular local situation.

One of the most common approaches for receiving citizen participation is through citizen commissions. Municipal-sponsored citizen environmental commissions vary on several aspects: (1) it can be a new board or an expansion of an existing board; (2) it may be permanent or temporary; (3) it can have a broad purpose or be limited to certain subject areas; (4) it can be advisory or have some authority; (5) members can be experts or representatives of the community at large; and, (6) it can have staff and a budget or have none. Inglewood, California, combined several boards responsible for planning and code appeals into a single board. Dallas created a temporary committee to advise the city what its environmental role should be. Guilford County appointed a board of experts to provide technical advice.

Intergovernmental arrangements can be even more diverse in nature. This chapter discussed two county solid waste disposal contract services, a multi-county health district air pollution contract service, several environmental functions of a regional planning commission and a council of governments, and a state-enacted special purpose river basin (water quality -- flood control) district. While it is generally recognized that "regional" organizations are necessary to address environmental problems overlapping local boundaries, there are a number of obstacles to the success of these efforts.

In reference to the diversity of organizational arrangements, perhaps a city manager summed it up best when he stated: "How does one organize to accomplish environmental management at the city level? There is no one right way; what works is correct."

C. Strategies for Environmental Management

The failure of past local programs to safeguard the environment has led many local governments to search for better tools or strategies for coping with environmental problems. To date, much of the local action has been an attempt to solve environmental problems once they arise, either through an enforcement program or provision of pollution control facilities. For example, when water pollution became a problem, local governments acted to provide a sewage treatment plant with capacity to handle it. Or, after flood waters damaged areas in the community, attempts would be made to dam or channelize the streams. More recently, however, the focus of much of local governments' environmental efforts has been to anticipate and prevent such problems from occurring when possible. Land use controls, for example, can be instituted to prevent construction within a flood plain. And in the area of water quality standards, municipalities often require that water entering the sewer system be of a certain quality, necessitating pretreatment by a manufacturing plant.

The focus of the field studies was on forward-looking strategies with broad application, rather than on technical solutions to specific problems. Consequently, the four cities were examined with respect to the following programs: environmental planning, environmental impact assessment, and environmental quality standards.

A first step in developing environmental programs is the formulation of a policy statement on the environment. While one can question the utility of such a statement, a well-prepared policy statement can provide direction for the entire staff of the organization and define some parameters for the development of future strategies. To put these policies into effect, they are almost always adopted by the legislative body. This is usually accomplished in the form of a policy resolution or as a part of the planning process.

The City of Westminster, California, for example, adopted an environmental policy statement as part of its comprehensive general plan. It stated:

> The policy of the citizens and the city government of Westminster is to enhance and maintain property to high aesthetic standards, minimize adverse environmental impacts of urbanization and industrialization, and eliminate deteriorating environmental situations or processes in order to achieve a community compatible to wholesome psychological, physiological, and sociological growth.

Similarly, the City of Garland, Texas adopted the following policy statement:

> The City of Garland will consider the environmental impact and associated economic implications of any public or private action and will strive to obtain the balance of factors providing the optimum community benefit. Further, this city will initiate and encourage actions to insure and safeguard a desirable environment.

With a general policy directive for guidance, a subsequent step taken locally was to insure that environmental concerns were considered by each city department (or those departments directly involved in environmental activities). In Phoenix, Arizona, the City Manager requested that departments undertake the following efforts:

1. Create an awareness of environmental issues among your staff.
2. Inventory and document community environmental problems to be corrected and resources to be protected. These can be problems resulting from activities of your department or that you contact in the performance of your duties. Determine what the city is doing, if this is sufficient and how we might improve the situation.
3. Assess the environmental impact of proposed projects, programs, ordinances and other activities. This additional criteria should be present where relevant in evaluating future proposals.
4. If your department has programs directly involved in environmental issues, develop an appropriate public information program.

Most communities are faced with a variety of environmental problems and responsibilities and as a result need to search out broad strategies as outlined above to deal with them. In applying these programs to other contexts, the following factors should be considered for each individual community: (1) the severity of the environmental problem(s); (2) the type of pollutant; (3) the source of present and potential pollution; (4) financial resources; (5) community resources; (6) available information; and, (7) staff expertise. While the strategies discussed below are flexible enough to be as useful to small jurisdictions as large, the complexities of environmental programs require considerable analytic capability. This capability is needed to define local needs, tailor a package of strategies to these needs, analyze the interrelationships so there are few unintended results, and prepare for implementation. (See Figure 5 for examples of policy statements of Garland.)

ENVIRONMENTAL PLANNING

Environmental planning, although subject to many definitions and interpretations, is used here to cover the consideration of

FIGURE 5. EXAMPLES OF POLICY STATEMENTS ADOPTED BY CITY OF GARLAND, TEXAS*

Area of Concern	Policy
Air quality	.The quality of air should not adversely affect the health of even the most sensitive or susceptible groups of the population .Pollutants should not reach concentrations that would significantly reduce visibility, especially visibility reductions that would, or could, be a hazard to transportation
Solid waste	.This city shall pursue technically and financially feasible methods of solid waste collection, separation, disposal, recycling and recovery which reduce the environmental impact of solid waste disposal, achieve energy or resource recovery, or recycle useful materials.
Water quality	.This city will pursue the construction and operation of pollution free wastewater treatment facilities, thus recycling wastewater to a reusable condition
Noise control	.The city resolves to initiate programs establishing and maintaining reasonable levels of noise tolerance
Urban aesthetics and land management	.A specific objective of this city is to insure a commitment, both public and private, to a pleasing aesthetic appearance.

*The policies listed below are only a portion of those adopted by the City; each area of concern contained several policy statements and only part of them are shown here.

environmental concerns in the comprehensive and land use planning processes. The first step in environmental planning, then, is to determine the particular environmental characteristics of the area. This has been called a natural resources inventory, and has been described most thoroughly by Ian McHarg in Design With Nature.

In 1967 the Miami Valley Regional Planning Commission published a report of the "Natural Resources of the Miami Valley Region." The purpose of the report was to identify the natural resources in the region, analyze associated problems, and make recommendations relative to managing these resources. Topics discussed included: geology and minerals, soils, water, biological resources (e.g., fish, wildlife), climate and precipitation, flood plain encroachment, water pollution, air pollution, and policy issues and recommendations for the proper maintenance and use of resources. This report served as a technical base for the consideration of other environmental programs throughout the region.

In Dallas, when the task of reviewing environmental impact statements was assigned to the Planning Department, it quickly became evident to them that they had no environmental data in their plans from which to estimate the environmental impacts of proposed projects. The Planning Department subsequently contracted with a consulting firm for the Dallas Eco Study. The purposes of that study were:

--to identify, quantify, and map the extent and location of 32 natural resources that are part of the Dallas County ecological system
--to store and display the data on the relative tolerance of the ecological systems to human impacts
--to provide a mechanism for the development of models to evaluate the impact of projects on natural resources.

After getting estimates of $200,000 to $300,000, a consulting firm finally was found that agreed to do the study for $25,000. However, the Planning Department participated in the data source search and coding, including interpreting infrared maps, and the computer programming necessary to display the data on maps.

The data, for the most part, came from secondary sources including United States Geological Service maps, infrared mapping from the National Aeronautics and Space Administration, Corps of Engineers, Soil Conservation Service, Dallas Geological Society, and local experts.

The following were criteria used in selecting variables:

--Enable spatial relationship of information
--Enable recording of information for future use in impact quantification
--Enable value judgments to be placed upon systems and their sub-units

--Allow for the up-dating of the stored information
--Allow for the analysis of information for multi-purpose planning
--Be feasible from an economic and time standpoint
--Enable in-house capability for carrying on the planning process
--Enable transfer of programs and methodology for ongoing in-house operation
--Provide the complexity of data appropriate to the level of decision-making required.

After a review of possible variables, data was collected on 32 natural resource variables and 3 measures of urbanization. The natural resources were part of 5 eco-systems; there were 5 zoological characteristics (e.g., Pileated Woodpecker habitat, complex wildlife areas), 10 botanical characteristics (e.g., unique botanical areas, natural and man-made marsh), 14 hydromorphic characteristics (e.g., flood plains, watersheds), 1 edaphic characteristic (i.e., 9 soil associations), and 2 geomorphic characteristics (i.e., 7 surface geology types, and fault lines). In addition to the individual variables, maps were also generated from them for 6 eco-systems (hydromorphic was subdivided into surface and sub-surface), and for 2 broader systems--the biotic (i.e., botanical and zoological) and abiotic.

The data on these variables were collected for 10,000 grids or cells. Although this seems large, it must be noted that the study area (Dallas County) was 900 square miles. The result is that each cell contained 61.8 acres or each cell was 1/3 mile in length. This relatively large size was deemed appropriate, considering the scale of the data source maps and hence the efficiency of delineating and extracting the data, and the level of decision-making requiring the data to be collected. Despite the assurance that quite a few developments in Dallas exceed 62 acres, it seems that cells of such a large size limit the utility of the project.

Once the data was collected, interpreted and delineated (i.e., to fit the grid scale of the study), patterns were extracted (i.e., either the predominant pattern for a resource in a cell was noted, or the proportion of the cell covered by the resource was calculated). The next step was to code these data: a numerical code was used on OCR (Optical Scanner Reader) forms. (The equipment used for the project included: one IBM 370 OS VS1, five IBM 2402 Tape Drives, one IBM 1404 Printer, three IBM 2319 Disc Storage Devices, one IBM 2540 Card Reader Punch, and one IBM 1287 Optical Character Scanner.) The final step of the process involved producing maps for each of the variables.

In addition to indicating the predominance and location of these natural resources, a major element of the program was to indicate the sensitivity of these resource patterns to human impact. The consulting firm was responsible for the modeling that resulted in these estimates of tolerance, although judgments for some of the component factors were often made by the local experts. These maps of resource tolerance could then be combined under a variety of conditions or value assumptions. For instance, a map was produced which could indicate the tolerance of the area for development or human impact. A second map merely showed the areas where there was a multiplicity of ecological subsystems rather than their degree of tolerance. A third map assumed that the biotic component was twice as important as other components. They noted that the biotic community was easier to identify and observe, and therefore could serve as a valuable indicator of the changes occurring in the ecological environment. A fourth map utilized the urbanization data and therefore suggested, when combined with other data from the study, which areas were suitable for urban development.

The preparation of the Dallas Eco Study has served many functions; namely,

--it increased knowledge and expertise of Planning Department personnel on the ecological environment of Dallas
--it developed skills in environmental management
--it developed a mechanism which will aid in monitoring the environment
--the output map of the study will aid in general routing (i.e., transportation planning) and siting of public facilities, as well as provide valuable information in zoning cases
--it will serve as an educational tool to be used in schools
--it enlisted community participation.

The flexibility in mapping in the Dallas study makes the inventory a much more useful tool for decision makers than the published inventory of MVRPC. Environmental planning then becomes more than a statement of environmental problems and long-range policies. It is a tool than can provide tailored information relevant to future activities, e.g., the impact of a proposed new airport.

ENVIRONMENTAL IMPACT ASSESSMENT

As a relatively new strategy for environmental management, environmental impact assessment is one of the more controversial mechanisms. Of all the field study cities, Inglewood was the only one which had adopted some form of assessment process.

In May 1972, Inglewood established formal requirements for environmental impact review (EIR). Then in February 1973, the Resources Agency of California issued its guidelines for the implementation of the California Environmental Quality Act (CEQA) of 1970. In April, 1973, the City Council of Inglewood amended its own requirements and procedures to conform to the state's guidelines (see case study for discussion of old guidelines). Prior to the revision of the guidelines in April 1973, 11 public and 25 private projects were subject to the EIR process. Of the 11 public projects, 3 or the EIRs had to be changed as a result of the review process, and 2 of these projects were modified as a result; no projects were rejected. Of the 25 private projects subject to the EIR process, 20 Environmental Clearance Statements were accepted unconditionally, 3 were accepted conditionally, and 2 were subject to a full Environmental Impact Study; no projects were rejected.

The procedure as now established requires the Planning and Development Director (rather than a broader-based Environmental Review Committee composed of representatives of several departments) to make the initial decisions whether: (a) the project or activity is covered by the CEQA or Council ordinance, (b) exempt because the governmental action is deemed to be either an emergency, or of a ministerial nature, or (c) categorically exempt. Ministerial acts include filing of sub-division maps and issuing building permits--both of which had been included in Inglewood's EIR process prior to these revisions. Projects that are categorically exempt are: (1) existing facilities which are merely being repaired, maintained, or altered slightly (additional space is limited to 2500 square feet or 50%, whichever is less); (2) replacement or reconstruction of existing structures and facilities, with substantially the same purpose and size; (3) new construction of small structures (e.g., a single family home--provided no more than two are built--or stores and offices designed for no more than 20 occupants); (4) minor alterations to land (e.g., grading on land with less than 10% slope); (5) minor alterations in land use limitations--i.e., minor lot line adjustments and set-back variances, not zoning changes which are not exempt; (6) accessory structures (such as small parking lots, on-premise signs, drainage projects under $10,000). The last four categories may not be exempt if the project is in a particularly sensitive environment, or if the cumulative impact of successive minor changes results in a significant impact. Other categorical exemptions include information collection, regulatory actions for protection of natural resources and for protection of the environment, inspections, loans, and surplus government property sales (except land).

If the project is not exempt, the Planning and Development Director must then decide whether the project may have possible significant environmental effects. If he declares that it will not have such impact, he issues a Negative Declaration, which is posted and becomes final after 10 days if it has not been appealed. In Inglewood, appeals are heard by the Community Environment Commission (which is a joint group composed of the Planning and Zoning Board and the Constructions Appeals Board), after a fee of $50 has been paid; their decision may be appealed to the City Council within 10 days on payment of a $25 fee.

The Director's decision that a project may have significant impact and therefore requires an Environmental Impact Report also is appealable under the conditions noted above.

The factors to be considered in making the decision whether a project may have a significant environmental impact requiring further study are basically the same as those the Environmental Review Committee was to use in making the same decision under Inglewood's earlier guidelines--with the exception that assessing the project's effect on the need for public services is not specifically mentioned and the new language only mentions "posing a burden on the existing street system" in its place. Reference to impacts on irreplacable cultural, historical, and recreational sites also was dropped at this decision point; but it and the impact of the project upon public services must be included in the full Environmental Impact Report, if one is required. It should also be noted that the guidelines specifically stated that the factors to be considered were not to be limited to those listed. Further, both primary and secondary consequences of an action are to be considered (e.g., the consequences upon the environment of any resulting population growth).

If an EIR is required, the draft (which may be made by the developer) is circulated to interested departments and is made available to the public upon request. Comments are to be made within 30 days, and a final EIR is to be prepared within an additional 30 days. The city then decides whether the project will or will not have a significant effect on the environment, and whether or not to approve the project.

An Environmental Impact Report must include: (a) the environmental impact of the proposed action, including primary and secondary impacts as well as short-term and long-term ones, at each stage--acquisition, construction, operation--of the project; (b) any adverse environmental effects which cannot be avoided if the project is implemented; (c) mitigation measures proposed to minimize the impact; (d) alternatives to the proposed action (including alternative mitigation measures, and the option of having no project at all), with the reasons for rejecting them; (e) relationship between the short-term use of the environment and the perspective that each generation is the trustee of the environment for future generations; (f) any irreversible environmental changes if the project were implemented; (g) the growth inducing impacts of the proposed action; and (h) the boundaries of the affected area, which actually may be quite far from the proposed site.

The EIR process has introduced environmental considerations into the decision-making process and has contributed to its rationality and openness. The Environmental Impact Review process has proven successful--not so much because it has killed environmentally damaging projects, but because it has introduced environmental considerations into the decision-making process of both private developers as well as governmental decision-makers. Its most serious problem may be the inability to accurately assess the environmental impact of a project, given the current state of available knowledge. Other criticisms of the process, such as its cost, or delay involved, are minor when compared to the benefits that can be gained if a project that is potentially harmful to the environment is blocked. But the technique requires dedicated administrators and vigilant citizen participation; the process can quite easily become a _pro forma_ exercise without these.

ENFORCEMENT OF ENVIRONMENTAL QUALITY STANDARDS

A key strategy for environmental management is the development and enforcement of environmental quality standards. Generally, specific ordinances are enacted aimed at the specific pollution problem, e.g., air, water or noise. Since the degree of local authority in each of these areas depends upon state enabling legislation, it is difficult to generalize local experience. The level of enforcement effort also varies greatly between local governments. Furthermore, most enforcement programs require a specialized enforcement staff.

Water

In Greensboro, North Carolina, the city government adopted an ordinance in January, 1961, that established limitations on waste which it would accept. Unacceptable wastes included:

- --any liquid or vapor having a temperature of 150°F
- --any solids such as ashes, sand, mud, etc.
- --any gasoline, flammable or explosive liquids
- --any improperly shredded garbage
- --any waste having a stabilized pH of less than 5.5 or more than 10.0
- --any cyanides
- --any noxious or malodorous gases.

In an amendment, a surcharge was established on those industries and commercial establishments which contribute excess BOD and suspended solids in their wastewater discharge. No maximum limit on concentration was set forth. Immediately after the amendments passed, the city sent a letter to all potentially affected industry, volunteering city personnel and laboratories to aid industry in problems of in-plant control at no charge. Plants made one of three responses; either they cleaned up and installed necessary equipment; they cleaned up in part by eliminating most costly pollution; or, they took no action.

The third alternative occurred most often since it was considered less expensive to pay the city surcharge.

A sampling schedule was then set up based on the monthly surcharge rate:

- --less $100, twice a year
- --$100 to $500, four times a year
- --over $500, six times a year

A minimum of three days is devoted to sampling each plant with an authentic average used to determine rate. Due to sampling problems with restaurants and laundromats, a special fixed unit charge is made.

The advantages to this program are: (1) the program is self sustaining financially, (2) industry is kept aware of the problem of wastewater treatment, (3) waste loads are lower, and (4) current information can be distributed.

The City of Dallas also maintains a water quality program. While it has an ordinance controlling wastes discharged into the sewer system, no continuous monitoring is made and no schedule of effluent charges exists. Dallas does spot monitor outfalls into the Trinity River. However, the City has not brought any suits against violators, but instead turns to the state for enforcement assistance when voluntary compliance is not forthcoming. Dallas also staffs a biological assay team that regularly monitors every stream in the city for aquatic life. It is felt that the health of stream life is the best measure of pollution.

Air

In each of the field study areas, air pollution was primarily a state responsibility, with day to day operations delegated to a subdivision, e.g., special district or county (see the discussion of the Miami Valley Combined Health District air pollution control program on page 240).

Although the State similarly is responsible for air pollution control in Texas, the absence of a vigorous enforcement program has led many local governments to establish their own programs. In Dallas, the monitoring and enforcement program has been relatively low key. The Air Pollution Control Section's program of monitoring air pollution at approximately 14 sites has resulted in cleaner air (e.g., 25% less suspended particulates) than existed in 1968 when the section began functioning. The enforcement program included 13 convictions in 1972 with about 25 cases still pending at the beginning of 1973; fines generally were $100, but compliance with standards was achieved in these cases. It is estimated that Dallas industry spent $2.5 million since 1966 for equipment and an equal amount for maintenance and operation of air pollution control systems.

Noise

In the area of noise pollution, Inglewood has played a leading role. In September 1969, the city adopted a 10 point program, which was to be carried out, in part, by a newly created Environmental Standards Division. A Director was hired in November 1969 after a vigorous recruitment campaign.

The 10-point plan called for:

1. A series of law suits against Los Angeles for damages on behalf of residents and property owners in Inglewood, and to compel them to extend their runways thereby permitting landing aircraft to be at a higher altitude while over Inglewood.
2. A comprehensive noise ordinance. Development of the ordinance and enforcement of it required a variety of monitoring equipment. The equipment that was purchased included a van which contained a microphone, precision sound level meter, octave band analyzer, graphic recorder, camera equipment, and tools and other accessories. Some of this equipment was for the City's general noise monitoring program, and some of it was aimed at collecting data necessary for Inglewood's campaign on aircraft noise. In addition to this portable equipment, there were also 4 fixed microphones on telephone poles in the flight path and a central recording station in City Hall to receive the aircraft noise data. It should be noted that a city could begin its program with a relatively simple hand-held meter (although it would have limited utility for any court cases).

   The noise ordinance that was adopted is similar to the Model Noise Ordinance developed by the League of California Cities. The ordinance establishes standards which vary according to different zones and times. For instance the assumed base ambient noise level for residential areas at night is 45 dbA, while it is 55 dbA during the day; this compares to 65 dbA for commercial zones during the day. Any continuous noise 5 dbA above the ambient level is prohibited; guidelines suggested that intermittent noise (less that 5 minutes an hour) should not exceed 10 dbA above the ambient, and short duration noise (lasting only a few seconds) is limited to 15 dbA above the ambient for purposes of enforcement. A special provision was written for aircraft noise. Because of earlier federal court rulings limiting the power of other cities to regulate interstate commerce such as airplane flights, the ordinance exempted any planes flying in conformity with federal air regulations or traffic control instructions. But if a plane was in violation of these rules--e.g., flying significantly below the proscribed landing approach glide path--it was prohibited from producing noise levels above 90 dbA.
3. Building codes were to be revised requiring soundproofing of all new construction and remodeling.
4. Master plan and zoning regulations were to be re-examined in order to adjust land use in areas in the aircraft landing corridors.
5. The city attempted to get Los Angeles to extend its runways toward the ocean, thus permitting planes to be at a higher altitude while flying over Inglewood.

6. It also tried to get other revisions in the approach pattern (e.g., prohibiting turns in the area).
7. It urged that approaches to the airport be at a steeper angle.
8. It urged the airlines to develop quieter (and cleaner) engines.
9. It devoted a major effort to appearing before FAA, CAB, and California Public Utilities Commission proceedings affecting noise.
10. It helped form a national organization concerned with noise abatement--NOISE (National Organization to Insure a Sound-controlled Environment).

The city has sought to use the courts in enforcement processes. With the help of special counsel, a suit was filed against the City of Los Angeles, which owns the Los Angeles International Airport, in the U.S. District Court in May, 1969. A nearly identical suit was filed in the California Superior Court in October, 1969. The main reason for initiating the backup suit in the state court was that it had a lower minimum monetary jurisdiction; a plaintiff has to have damages of $10,000 to sue in federal court, but only $5,000 in the state court. The federal court ruled that Inglewood did not have standing to sue. This decision was appealed to the Court of Appeals which ruled that Inglewood could sue and remanded the case back to the lower court which, in part, was to determine as part of the trial whether the owners had suffered the minimum amount of damages necessary for a federal suit.

But Inglewood decided to drop its federal suit and press its case in the state court. The city won the first round when the court rejected Los Angeles' motion to dismiss the case on the grounds of "multiplicity of actions" (i.e., the suit in Federal Court and a separate suit by a group of Inglewood residents). Los Angeles' appeal of this decision is now under consideration. In addition, Inglewood's suit in Federal Court was filed in behalf of residents and some of these are trying to have the Federal suit re-instated.

This discussion of Inglewood's civil suits clearly indicates one of the major weaknesses of this strategy--i.e., it is subject to great delays, increasing its costs.

Inglewood's criminal case did not fare better. When the city filed misdemeanor charges in March 1971 against an airline's pilot for violating its noise ordinance, an injunction against enforcement of this part of the ordinance was issued.

Radiation

In Miamisburg, a special program of cooperation exists between the Mound Laboratory, under AEC contract, and the City. The Mound Lab

Program of Safety and Environmental Control has evolved coincident with the dramatic increase in public awareness concerning environmental issues. Two events occurred in 1968 which, in retrospect, appear to have been significant in establishing the present open and cooperative climate in which the program is conducted. In that year, a Miamisburg City Councilman read a series of newspaper accounts of a report of two researchers who claimed that current AEC standards for human radiation tolerance were too high and should be lowered to prevent potential long-range genetic and other environmental effects. The Councilman, through the city staff, initiated a series of discussions with the Mound Lab concerning the impact of this report upon the citizens of Miamisburg and the surrounding communities. Simultaneously, the Atomic Energy Commission, under considerable environmental pressure, became persuaded that more openness was needed in its communication with the public concerning the environmental impact of its contract facilities and licensed radiation sources. Apparently the effect of these events had a major impact on the public posture of Mound Lab with respect to its environmental control program.

Subsequent to 1968, Mound Lab renewed its emphasis on environmental control and safety by internal reorganization which gave top priority to the matters of employee safety; containment of pollution at the source; and on-site and off-site monitoring systems. The basic intent of the control program is to prevent at the source any radiation leaks or safety hazards both to the community and to employees within the plant. The monitoring program is set at various levels of "triggering" to assure that any leakage would be discovered well before reaching critical exposure levels.

The monitoring program is designed around the standards developed by the Federal and state governments to control pollution. AEC regulations on radiation protection are based principally on the Radioactivity Concentration Guide (RCG) levels recommended by the Office of Radiation Programs of the Environmental Protection Agency. The levels represent limits in the concentration of radioactivity for each specific type of radioactive material that should not be exceeded. All effluents leaving the laboratory are analyzed for pollutants. Samples taken on and off-site are reviewed for radioactivity in the basic elements man contacts, e.g., air, water, soil, and foodstuffs. Mound has two treatment plants that process all liquid wastes before they are discharged into the Miami River. In addition to two on-site water sampling stations which operate continuously, there are five water sampling locations along a seven mile stretch of the river. The effluent is analyzed for three radio-active materials (polonium, plutonium, and tritium) as well as 29 different water quality parameters listed by the Environmental Protection Agency.

The Lab also monitors air quality, beginning with stack emissions. The off-site air sampling survey covers an area of some 1,250 square miles. The samples are collected three times a week in each of the 21 off-site air sampling stations. These facilities were then turned over to the Montgomery County Combined Health Department for operating as an air monitoring system. The Monsanto/Mound facility shares in the data in all 21 such stations. Thus, everyone believes that they are Health Department facilities, with the end result being an excellent program within which the Mound Laboratory, through cooperation with a public regional agency, gains needed information without public alarm by minimizing the physical presence of its monitoring activities.

SUMMARY

Several strategies for environmental arrangement are available to local governments. However, it was not possible to investigate them all in the four field studies. This chapter, therefore, reviewed three major strategies: natural systems inventory, environmental impact assessment, and environmental quality standards.

The natural systems inventory is seen as an important step in local environmental planning. The inventory can take the form of a planning report, as in the case of the Miami Valley Regional Planning Commission, or a computor-based information program, as in Dallas. The Dallas experience indicates that such a program can be undertaken at minimal cost.

The discussion of environmental impact assessment was based on the experience of Inglewood, California. The Inglewood process, entitled total impact analysis, includes consideration of economic and social impact as well as environmental. The procedures followed are explained in some detail. While the impact assessment is regarded as successful in terms of introducing environmental considerations into the decision making process of public officials and private developers, it is criticized for the inadequacy of current knowledge, cost and possible project delays.

Several local programs for the enforcement of environmental quality standards were discussed. In Greensboro, North Carolina, and Dallas, water quality was examined. Greensboro has established wastewater standards with a system of surcharges for violations. Dallas monitors outfalls into the Trinity River and also city streams.

The air pollution control program in Dallas is somewhat unique because the State has the primary legal responsibility for air pollution control in Texas. They maintain a small staff for monitoring and enforcement, although emphasis is a voluntary compliance.

A vigorous noise control program was found in Inglewood. Their noise program includes a comprehensive noise ordinance, monitoring, revised building codes, and initiation of legal suits.

The city's effectiveness in noise control has been somewhat limited in the case of the aircraft noise from Los Angeles International Airport, although legal cases are still pending.

The final example of radiation control in Miamisburg, Ohio, is important for two reasons: (1) it is an area of emerging interest, and (2) it demonstrates a federal, local, private cooperative relationship.

Perhaps the key point to be made by these examples of local strategies is that they are now being successfully carried out and at a cost that is not prohibitive to most local governments. In many respects, however, the programs are experimental in the sense that there still needs to be greater technical input and better program evaluation.

APPENDIX 1

CRITICAL VARIABLES AND RELATED RESEARCH QUESTIONS

1. The General Condition of the Environment (Living and Physical).

   How did the environmental issues come to attention of the local government?

   How did local governmental officials know there was an environmental problem?

   Was there an environmental crisis near or in the jurisdiction of the local government? If so, what type of problem? How long did it last? What was the public reaction to the problem? What was the government's reaction to the problem?

   Does the local government monitor the quality of the environment? If so, how?

   Is there in existence an environmental inventory?

2. Attitudes and Opinions of the Community toward the Environment

   What is the attitude of local administrators toward the environment?

   What is the attitude of local elected officials toward the environment?

   What is the attitude of the news media (editorials and news coverage toward the environment?

   What is the attitude of the citizenry toward the environment?

   How have these attitudes been manifested into action?

3. Political and Legal Context of the Local Government

   What are the major environmental issues facing local policy makers?

   How have the voters behaved in past elections on environmental issues?

How heavily have candidates for public office campaigned on environmental issues?

What were the results of the election?

What past issues have involved environmental matters? How did they get into the political arena? How were the issues resolved?

What interest and citizen groups have been active in environmental issues? What were their goals? What politicai strategies did they use? Who belongs to the group? How are their leaders? What issues are they active on?

What are the constitutional limitations on the powers of the local government?

What type of governmental structure does the local body have?

Who are the elected officials?

Who are the chief administrative personnel? What are their backgrounds and experiences, particularly in environmental management?

What is the relationship between the local government being studied and other governmental bodies both local and state?

4. Environmental Policy

What environmental policy (ies) have been adopted by the local government?

What was the process for adoption?

What opposition to the policy existed?

How is the environmental policy being implemented?

What is the relationship between local environmental policies and state policies and requirement? and between local environmental policies and Federal policies and requirements?

Who wrote the policy? Were there general guidelines?

5. Administrative Organization for the Environment

In general, how is the local government organized? How does the environmental program fit in?

What is the budget for environmental programs? How does this compare to the overall local government budget? How much aid does the local government receive from the state and the Federal government? What is the process for obtaining the financial aid? How do environmental programs fit into the capital budget?

What organizational changes have been made to improve local environmental management?

Has a citizen advisory board or commission been created? If so,

How was it established?
Who serves on the commission? What is their background? How are they appointed? What is their primary responsibility?
What is the function of the commission?
What is the financial cost?
What problems exist in implementation?
What suggestions for improvements can be made?
How does it relate to other boards and commissions?

Has an individual been designated as head of the environmental programs: If so,

Who is this person? What is his background?
What are the job requirements?
What are his primary functions?
How does he relate to other administrators and departments?

Has an administrative committee been created? If so,

Who is a member of the committee?
What is their primary responsibility?
How often do they meet?
Who is chairman of the committee?

Has an environmental department or agency been created?

How was it established? Who established it?
Who are the employees of the department? What are the backgrounds of the personnel in the department? What training have they had in environmental management? What are the current responsibilities and functions?
What programs do they have responsibility for?
How are the programs being implemented?
What criteria would they use to evaluate their effectiveness?
How effective are the programs?
What problems (administrative and political) have they encountered?
What alternative administrative structure could be suggested?
What relationship exists between this department and other departments, particularly planning and public works?
What is the role of the chief administrative officer in local environmental management?
How are the various programs coordinated?

6. Strategies for Local Environmental Management - Environmental Impact Statements, Environmental Quality Standards and their Enforcement, Economic Incentives and Penalties, Land Use Controls and Planning, Court Cases, Moratoriums, etc. For each strategy, the following set of questions will be used:

   How was the strategy developed? Who developed it?
   How was approval secured? What political problems occurred?
   How is the strategy being implemented? Who has primary responsibility?
   How much does the strategy cost?
   What are the procedures?
   What personnel resources are being expended? Who are the personnel? What training and background do they have?
   What criteria are presently being used to evaluate the strategy?
   How effective is the strategy in improving environmental quality?
   What suggestion can be made for improvements?

7. Intergovernmental Relations in Environmental Management

   What regional arrangement exists in environmental management?

      How was this arrangement created?
      What is the role of the local government being studied?
      How is it financed?
      What are its responsibility and functions?
      Who are its employees?
      How successful has the arrangement been?
      What problems have been encountered?
      What suggestions can be made?

   What state programs does the local government participate in?

      What is the relationship between governmental bodies?
      What is the financial arrangement?
      What problems exist?
      How can these problems be overcome?

   What Federal programs does the local government participate in?

      What is the specific relationship between governmental bodies?
      What is the financial relationship?
      What problems exist?
      How can these problems be overcome?

   What is the relationship between the local government and the U.S. EPA?

APPENDIX 2

REPORT ON THE FIELD TRIP TO DALLAS, TEXAS

Introduction

The City of Dallas has experienced rapid growth between 1960 and 1970 with its population increasing nearly 25% to total 850,000. The land area for Dallas also increased by 16% during those ten years to 295 square miles. To the untrained observer, Dallas even with its tremendous growth, gives the impression of wide open spaces. This feeling of space, combined with a belief in growth and the free enterprise system, leads many citizens to feel that there are no environmental problems in Dallas. But Dallas' environmental problems are keeping pace with its growth.

Located near the center of northeast Texas, Dallas is on the western edge of the Gulf Coastal Plain. The prairie basin is drained entirely by the Trinity River and its tributaries. The Trinity River is considered to have a "relatively low" pollution level in comparison to rivers in other cities like Houston and Cleveland. The major causes of water pollution in the Trinity are oil and grease from city streets, service stations, and oil disposed of by citizens after lubricating their automobiles; and phosphates from detergents and fertilizers. In fact, water pollution experts have pointed out that during the summer months, the Trinity River is 90-95% treated effluent. Like many other cities, Dallas periodically experiences atmospheric conditions known as a temperature inversion. These inversions are associated with poor atmospheric diffusion conditions with the cycle of inversion and non-inversion conditions drastically affecting the air pollution problem. The principal result of the inversion is to inhibit vertical motions of the atmosphere. Air pollution experts note Dallas' location in a basin with walls of only 300-500 feet or 1000 feet if adjoining counties are added. This basin increases the air pollution problems associated with inversions. From another point of view, Dallas is thought of as a "well-ventilated city" due to wind speed averaging about 10 mph. Dust particle concentration measurements in Dallas show that the pollution level increases during the work week in spite of the winds. It is quite evident that the amount of ventilation is far from sufficient from the pollution standpoint. Noise pollution in many parts of the city is a serious problem, particularly in those areas under the take off and landing patterns around Love Field. Another source of noise pollution is highways with inadequate noise buffers. In terms of land use patterns, there is insufficient open space in many areas to buffer incompatible land uses.

The City of Dallas has recognized its environmental problems and has undertaken a variety of strategies to improve environmental quality, including:

- --an ordinance re discharging industrial wastes (see Addendum a.)
- --development of a Water Reclamation Research Center for conducting research in waste water treatment
- --cataloging all major portions of the sanitary sewer system and the preparation of a computer model of the sewer system to include a quantity of flow and number of new customers in each drainage area
- --a ban on all open burning of refuse
- --a system of sanitary landfills for solid waste disposal
- --development of a plan for separation and recycling of solid wastes
- --research on pollution resistent plants
- --civic sponsored beautification program
- --completion of the Dallas-Ft. Worth Transportation Study and Regional Public Transportation Study.
- --a federally-funded Urban Corridor Demonstration Program designed to produce significant gains in the elimination of traffic congestion on freeways and streets by giving preferred treatment to buses.
- --revision of subdivision regulations to reflect considerations of design and environment.
- --creation of a temporary citizens' advisory committee to assess environmental conditions.

Since it would be impossible to analyze all organizational changes and environmental management programs, only the following aspects are discussed in this report. Three organizational innovations have been identified:

- --the Committee on Environmental Quality as a temporary citizen advisory body
- --the Trinity River Authority as a state-created, regional body responsible for the environmental quality of the Trinity River Basin
- --a report completed under the North Central Texas Council of Governments recommending a Comprehensive Sewerage Plan for the Upper Trinity River Basin

In terms of environmental management programs, three strategies are analyzed:

- --the Ecological Study which was an inventory of present environmental conditions, both physical and social in Dallas County
- --programs in environment quality standards and their enforcement, concentrating on air and water standards
- --the Water Reclamation Research Center, using both municipal and federal funding, in doing a research project on waste water treatment and possible recycling

COMMITTEE ON ENVIRONMENTAL QUALITY

The involvement of citizens in environmental affairs at the local level through the creation of an advisory committee may or may not serve any purpose beyond "window dressing." However, a number of worthwhile purposes are possible:

- --to bring additional expertise to decision makers, with selection of committee members based on technical skills or knowledge
- --to call public attention to an environmentally related problem and generate support for governmental actions. Consequently, committee members might be selected for being an environmental proponent or for investigative skills.
- --to make preliminary decisions which are reviewed by elected officials or determining community goals and priorities, with selection of committee members based on representativeness of the community.

These are not exclusive functions; for instance, an advisory committee may accomplish all of these objectives and have its membership selected on the basis of all of these criteria. In Dallas, the Committee on Environmental Quality was selected primarily with considerations of representativeness in mind rather than technical expertise or investigative skills, or resources (such as time), or dedication to the environmental cause.

During the Spring 1971 campaigns mayoral candidate Wes Wise, pitted against the choice of the usually victorious Citizen Charter Association, ran on a platform which considered the environmental issue second only to law and order. After Mr. Wise's victory, he followed through with his concern for the environment. On July 26, 1971 he appointed a 3-man Council committee to study the feasibility of creating a City Environmental Quality Board, with the suggestions that it have approximately 8 members--including 1 high school and 1 college student (his campaign had urged greater participation in government by young people), at least 2 from industry, and the remainder from the general public--and that it be "strictly an advisory one."

After receiving assistance from the City Manager's office, on September 13, 1971 this study committee reported its recommendations. It supported the establishment of a 15-member committee with the membership being "drawn from those in the city with useful knowledge and expertise, e.g., Architects, Planners, Landscape Architects, Engineers, Medical Societies, Home Builders, Real Estate, Professionals, Industry, Environmental Organizations, League of Women Voters, A.A.U.W., High School Students, College Students." The members' term of office would cease on June 1, 1972 upon completion of their report. The Committee would have had eight and one-half months if the Council acted promptly on the recommendations of the City Manager's staff, which would serve as their staff. The scope of their work was broad in that the Committee was to develop and submit "a recommended city-wide environmental policy with consideration of the specific categories and concern of water (pollution and thermal condition) quality, air pollution (including dust, odor and equipment emissions), noise pollution, visual pollution, open space, land use, population, solid waste pollution." The report continued,

"The pursuit of this assignment would involve the following:

1. Assessment or environmental preservation action and improvements accomplished or in progress.
2. Identification of instances where environmental improvements could be made.
3. Inventory and documentation of community environmental problems, ranking them in order of severity of effects on residents.
4. Identification of needs for:
   a) research, experimentation and expanded special environmental projects;
   b) planning strategies;
   c) programs for public information
5. Definition of an appropriate city role in the solution of environmental problems.
6. Submission of recommendations for new and additional ordinances and regulations for environmental improvements.
7. Development of recommended changes in city procedures, programs, or activities that contribute to our environmental problem.
8. Suggestions as to means of creating an awareness of environmental problems throughout the community, and lastly,
9. Identification of opportunities for community cooperation, inter-agency cooperation and intergovernmental cooperation in programs to improve the environment."

In addition, the Council committee noted it was prepared to offer a resolution to accomplish this and to nominate the 15 members of the committee.

On September 27, 1971 the Council passed an ordinance virtually identical to the recommendation. But the resolution was not implemented - i.e., the appointments were not made. On January 3, 1972 the Council passed a new ordinance repealing the earlier one, adding a 10th objective: "Such other related matters that the Committee deems of benefit to the City Council in attacking the environmental problem of the City," giving it a 6-month life from the date of swearing in of a majority of the Committee, and increasing its size to 17 (including a Chairman and Vice-chairman). See Addendum b . On March 1, 1972 thirteen of the members were sworn in, and the Committee was ready to function.

The delay between the creation of the City Council's committee to study the feasibility of a Committee on Environmental Quality and the swearing in of this citizen advisory group was more than seven months. Speculation about the delay centered on the difficulties involved in agreeing on the appointees, although other causes may have contributed, such as the press of higher-priority matters. The size escalated from Mayor Wise's suggestion of 8, to the City Council committee's suggestion of 15, to the final selection of 17. One source speculated that the delay came, in part, from the Council's desire to avoid conflict. Extensive negotiation occurred over the appointment of the only black as Committee Vice-Chairman; when the initial choice declined to serve because of the press of his other activities, there was some delay until a second black man could be named as his substitute as Vice-Chairman. The political sensitivity of the task of naming the Committee may also be seen in the fact that only 5 or 6 of the 30-40 names suggested by the Planning Department were eventually appointed.*

Additional speculation about the delay suggested that the Planning Department staff, which served as the staff for the Committee, was busy with other activities and so the entire project was delayed. It is interesting to note, however, that the Committee received a 52-page staff report from them entitled, "Environmental Issues in Dallas: A Preliminary Report," dated October 1971, suggesting that an earlier start for the Committee was anticipated. This report included a description of current environmental conditions in Dallas, a statement on existing legal tools, a description of the relevant public agencies that might be helpful to the committee, a brief list of the most active environmental groups, and an outline of the significant problems the committee might examine. Appendices included a description of the physical landscape; a summary of relevant local, state, and federal laws in the environmental field; a list of names and addresses of city, county, regional, state, and federal agencies with environmental responsibilities; a list of 59 local organizations concerned with environment; and finally a list of environmental experts at local and nearby universities.

The composition of the initial Committee could be classified in a number of ways. Classifying them by environmental advocacy, one source who was interviewed during our field visit felt that only four members could be considered environmentalists (i.e., had played an active role in environmental organizations or had publicly expressed strong environmental views). If classified according to "minority" status, four were women, one was black, one was Chicano, and eleven were white males. According to occupation, two were students, two were associated with Universities, two were housewives, two were in the construction or building industry, one was a small businessman, and eight were professionals such as engineers, lawyers, physician, CPA, architect.

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*The low proportion of Planning Department "nominees" selected may be interpreted as a sign that staff does not dominate the Council rather than a sign of the political sensitivity of the task.

Since the Committee was sworn in March 1, 1972, it was supposed to go out of existence on September 1, 1972. But in August 1972, the Committee requested an extension of its term, and the Council agreed, setting June 30, 1973 as the deadline the Committee was to conclude its mission.

The Committee, despite its limited tenure under the enabling legislation, began slowly. This might have been expected considering its broad focus and its diverse membership which purposely contained both environmentalists and representatives of the business interests. The leadership style of the chairman, which stressed consensus, may also have contributed to the slow start.

With the assistance of the 3 staff members from the Department of Planning and Urban Development, the Committee distributed a questionnaire to the various departments involved in the environment which asked them for their: 1) accomplishments to date, 2) possible future improvements, 3) list of environmental problems, 4) needs for research, 5) planning strategies, 6) public information needs, and 7) general comments. They also began receiving oral testimony from various department heads.

The replies of the departments indicated a broad range of perceptions on the city's environmental problems. There appeared to be a general consensus among the respondents that their own department had accomplished a great deal and did not need any additional help. This contributed to a distrust of the information supplied by the city staff. A number of the Committee members felt the departments were giving "biased" responses in that they were self-protective as well as lacking criticism of other departments. There was some reported resistance from departments with some distrust for the role of the Planning Department in this project.

The Committee also solicited the views of environmental activists in Dallas as well as regional, State, and Federal agencies familiar with the city's problems. They also sought information from 19 other cities in the nation that they knew had utilized citizen environmental commissions. The quantity and quality of the responses varied. For example, only 48 of the 200-300 questionnaires to local groups were returned and these varied from very general comments to some very detailed responses.

As part of their efforts to become informed, two public hearings were held. The first was an afternoon meeting and the second (held a week later) was an evening meeting. Speakers were limited to a five-minute oral presentation before questioning, but no limit was placed on the length of any written statements. The focus of the presentations was on the major environmental problems of Dallas, and potential solutions to them. Participation was low - only eleven appeared at the first meeting and twenty-one at the second. It is not clear whether this reflected contentment with the environment in Dallas, or merely a lack of organized interest in the environment, suspicion of citizen advisory groups, or poor organizational effort by the Committee (i.e., publicity, timing, and location of the hearings - e.g., one suggestion made subsequently by a Committee member was to hold the hearings in the neighborhoods as the Planning Department has done on its Comprehensive Plan Development rather than a single central location).

The Committee is currently in its final phase - preparing its report for the City Council which was due June 30, 1973. A complete evaluation of the Committee cannot be made until the report has been made and reviewed by the Council.

Several alternative paths were suggested by the participants and observers interviewed almost a year after the Committee began its work. It has been noted that the recommended size for the Committee grew from the Mayor's suggestion of eight, to a City Managers' staff recommendation of "9, 11, or 15," to the eventual size of 17. Some felt a city of Dallas' size needs a still larger committee; it might be harder to manage, but it would provide a greater pool of talent from which to draw the real workers, as well as enabling a greater division of labor in the formation of subcommittees.

Some consideration was given to the term of office. A temporary committee scheduled to go out of existence when its report was presented, was the choice made. The arguments apparently raised included the amount of structure already present in the fragmented field of environmental management, and the cost, but there was also a fear that a permanent body might be a continuing source of citizen pressure. Certainly the originally prescribed six-month term of office was too brief to expect the fulfillment of the broad charge given to the Committee.

The staff for the Committee came from the Planning Department. An alternate source would be for the Committee to recruit its own staff. Although this would be more likely to avoid the distrust of the staff that arose in Dallas, it is also very time-consuming and is likely to result in a staff that is not as intimately acquainted with the machinery (formal and informal) of the City Hall political process. Similarly, although an independent staff would eliminate any misperceptions that the group was merely advising a single department rather than the City Council, the same goal could be accomplished by using the staff available to the City Council (i.e., the City Manager's staff).

The Committee's role was a source of concern. The Committee, at the outset, seemed to want a role beyond merely recommending goals and priorities. They recognized the political reality that how a program is legislated and administered will have a greater impact on the environment than a mere statement of policy objectives. Their fear of only being window-dressing, and their distrust of staff that emerged from their early experience may have contributed to it. The occasional push from the Planning Department staff to endorse some of their previous work (specifically their sign ordinance efforts), and their own concerns for the environment (which led them to criticize the Council for endorsing the Trinity River project before the EIS for it was released), as well as a too-human tendency for ego-building may also have contributed to their desire for a broader role.

TRINITY RIVER AUTHORITY

A unique regional governmental body, the Trinity River Authority, was created by the State of Texas to govern the development of the Trinity River Basin. Today, the Basin includes 17,845 square miles of valley that feed the Trinity River, 6.4% of Texas' land area, 20% of Texas' population, and 25% of Texas' present economy. The conservation and use of the water resources of the Trinity River Basin involve an effective working partnership between the state's largest metropolitan areas: Dallas-Ft. Worth and Houston.

Efforts to improve the Trinity River Basin go back to the 1870's. In recent decades, a major step forward occured in 1955, when the Texas Legislature created the Trinity River Authority of Texas. The Authority, known as TRA, was given three principal duties:

--to master plan the orderly development of the entire Basin's soil and water resources.
--to provide local participation in federal projects when required by the Congress, as in the case of navigation and flood control.
--to provide services to people within the TRA territory.

TRA is a state agency and a political subdivision of State government. Its territory includes all or part of the 17 counties which are adjacent to those reaches of the river which will be developed for navigation. TRA is governed by a 24-member Board of Directors appointed by the Governor with the approval of the Senate. By law, 3 directors are from Tarrant County, 4 from Dallas County, 1 from each of the other 15 counties, and 2 are appointed at-large. The directors serve 6-year terms. Since TRA's creation, the Directors have declined to accept the compensation and expenses to which they are entitled.

Since its inception, the Trinity River Authority has been involved in a variety of activities. For the purpose of this study, four projects are analyzed: the development of a master plan, pollution control program, the development of a Basin Water Quality Management Plan, and the Trinity River Canal Project. In 1958, the TRA completed a river basin master plan which was the first of its kind in the United States. It was adopted, after 16 public hearings held throughout the Basin, with these basic components:

--the multiple-purpose channel for navigation, flood control and recreation.
--the construction of 49 major dams resulting in 49 major lakes for water supply, flood control and recreation.
--the construction of 5 more floodway and levee systems, which will solve the flood problems in the cities.

The master plan adopted and enlarged upon the initial soil conservation program by providing for more rural flood control dams to keep polluting silt out of the river. The crux of the rural flood control program is the application of sound soil conservation practices and land and range management programs to over 8,200,000 acres of land in the upper Trinity.

The implementation of the major projects is providing many water-oriented recreational opportunities for the growing populations of both the Trinity River Basin and the Houston metropolitan area. These opportunities include boating, swimming, canoeing, sailing, camping, picnicking, or just the quiet enjoyment of beautiful waterfront landscape made accessible through river improvement programs.

After adoption of the master plan in 1958, TRA began implementing the unfinished parts of the plan. By selling over $113 million dollars of revenue bonds and by obtaining millions of dollars of federal funds in the form of construction assistance, grants and loans, TRA has achieved these results without any local taxes.

A second activity of TRA has been in water pollution control programs. There are two types of pollution in the Trinity River: 1) algae caused by the discharge of raw sewage or improperly treated effluent from sewage treatment plants and other illegally discharged pollutants; and, 2) silt caused by soil erosion. Before the creation of federal and state pollution control agencies, the TRA master plan took aim at the Trinity's pollution problem and initiated in Texas the regional sewerage system concept as a positive solution to the problem in urban areas. This concept is a workable alternative to the contamination of these areas by numerous small sewage treatment plants that are not economically operated nor properly maintained.

TRA's first step forward in cleaning up the Trinity was the Central Sewerage System, which serves 11 cities. If this system had not been built, over 40 small plants would be scattered throughout this area and the river would be more polluted than it is. Today this one plant is treating the sewage of those 11 cities and discharging into the Trinity an effluent that meets the State's minimum standards. Ultimately, it will be expanded to treat the sewage of over a million people.

TRA's second step forward in cleaning up the Trinity River was the construction of the Ten Mile Creek System, which now serves five cities and which will ultimately treat the wastes of over 350,000 people. When this system became operational, seven small substandard plants were eliminated. The effluent discharge of this plant is of better quality than required by the State's minimum standards.

TRA's third step forward in cleaning up the Trinity was the construction of the Walker-Calloway Branches outfall line project that eliminated three more small, substandard plants.

TRA's fourth step forward in keeping the Trinity clean was the implementation of a septic tank control program along 460 miles of shoreline at Lake Livingston. Percolation tests are used to determine if the land at a given point is suitable for the installation of a septic tank system.

In 1972, TRA initiated a third activity, a basin-wide water quality management study. This study, requiring some 18 months, will be the basis for a water quality management program which will establish the machinery for cleaning up the Trinity River and keeping it clean. This $643,300 effort is being partially funded by the Environmental Protection Agency at the level of $321,650. The Texas Water Quality Board is providing $185,000 and the remaining portion of the funds are coming from the Trinity River Authority and other local sources. Special recognition should be given to local contributions made by the Amon G. Carter Foundation which donated $25,000, the Hoblitzer Foundation which donated $25,000, and the Trinity Improvement Association which has contributed $50,000. Since receipt of grant funds for the purpose of making this water quality management plan, the management has employed several staff members whose work is solely related to the development of this Basin Plan. These staff members are currently engaged in various work activities in connection with this Plan development.

The Basin Water Quality Management Plan involves the establishment of the basin water quality goals and the water quality management plan that will assure the accomplishment of these goals. A number of tasks such as those listed below will provide the basis for this Plan development.

1. Identify the available water resources of the basin.
2. Identify the water needs.
3. Identify the current and future waste loads.
4. Determine water quality standards for assuring various water uses.
5. Determine the cost-effective plan for satisfying water quality standards.
6. Recommend implementation schedule for construction of proposed facilities.
7. Determine cost estimates for recommended pollution abatement facilities.
8. Develop financial plan to provide funding needed for implementation of pollution abatement facilities.
9. Develop jurisdictional plan that will indicate implementation and operation responsibilities.
10. Consider the environmental impact of the proposed Water Quality Management Plan.

A fourth activity of TRA was the development of a multi-purpose channel for flood control, economic growth, low cost transportation, recreation, and preservation of natural areas. The project plans call for the construction of 16 channel dams and 20 locks and the bypassing of 184 bows and bends to shorten the river's length from 548 to 363 miles. A shorter, straighter river is vital to both flood control and navigation.

In June 1973, voters in the TRA were asked to approve the issuance of $150,000,000 of river improvement tax bonds by the Trinity River Authority and to ratify the power given the authority to levy an ad valorem tax not to exceed 15¢ per $100 of assessed valuation on property within the boundaries of the Authority, which generally constitutes the area of 17 counties which lie within the Trinity River Watershed.

The $150,000,000 of funds from the sale of the bonds were used to provide the non-federal participation on certain improvements to the river basin authorized by the Congress in 1965 and for which the Corps of Engineers since that date has invested approximately $7,619,000 in advance engineering and design work. President Nixon recommended the expenditure of an additional $1,086,000 for this work in the coming fiscal year. Although these improvements are expected to be funded for construction primarily with federal funds, there are certain requirements for participation by non-federal public interests. The Trinity River Authority has the responsibility for providing the non-federal funds required on certain of these improvements, and with the approaching completion of the advance engineering and design work the time is at hand for the Authority to take those steps necessary for providing its share of this financing. Current cost estimates for these features are $1,351,100,000 of federal funds and $312,960,000 of non-federal funds. Of the non-federal funds required, more than one-half can be funded by the Authority through financing other than the use of tax supported bonds. Only $150,000,000 of tax supported bonds will be required for use by the Authority in meeting the requirements necessary to implement this program.

However, voters turned down the bonds for environmental reasons, and thus, at least temporarily, killed the project.

UPPER TRINITY RIVER BASIN COMPREHENSIVE SEWERAGE PLAN

In January 1969, the North Central Texas Council of Governments (NCTCOG) contracted for a plan of a comprehensive sewerage system for their region covering 10 counties. The study area, however, extended beyond the boundaries of NCTCOG and focused upon the Upper Trinity River Basin which included portions of an additional 11 counties.* The area of the study covered 11,000 square miles which is larger than several states and its 2.7 million population exceeds that of a number of states.

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*One of these counties has subsequently become a member of NCTCOG.

The need for a comprehensive sewerage plan for the river basin can best be demonstrated by pointing out that during the dry period, the flow in the Upper Trinity River and its tributaries is more than 90% treated effluent (or discharge) from existing sewage treatment plants. In many parts of the river BOD (biochemical oxygen demand) levels do not meet the standards established by the state and federal governments.

Basically, the 18-month study recommended a limited consolidation into 6 joint systems and a gradual phasing out of the other 47 sewage treatment plants in Dallas and Tarrant Counties (the latter includes Ft. Worth) and in portions of 7 other counties. The 6 systems are currently in existence or under construction and are operated by 4 entities: Dallas, Ft. Worth, Trinity River Authority, and the cities of Richardson and Garland (the latter to be operated by the North Texas Municipal Water District).

Eighteen months later (December 1971) another consultant's report, recommending a management and finance program for the system, was submitted and approved by the Executive Board of NCTCOG. The 6 joint systems would be established and operational relationships stipulated through the North Central Texas Regional Water Quality compact which would be drafted by officials of the affected cities and the joint systems operators. The compact would spell out the duties and responsibilities of the various levels of government involved, including NCTCOG's 21 member Water Development Council, and would provide overall guidance and direction for the Regional Sewerage Plan. The 21 member Council would be composed of 6 representatives from the two Dallas systems (3 selected by the operators, and 3 nominated by the System Customer Council with confirmation of the system operator), 4 from the Ft. Worth system (2 operators and 2 customers), 3 from the other systems (1 operator and 2 customers); these 17 members plus 4 from the region at-large would be appointed by the Executive Board of NCTCOG.

Of major interest to the non-Texas reader may be the organizational form recommended and the alternative forms considered and rejected by the consultant firm hired to develop the Management and Finance Program for the Comprehensive Sewerage Plan. The report written by Peat, Marwick, Mitchell and Company and published in December 1971 lists a number of advantages and disadvantages of the various alternatives, and the remainder of this section is drawn primarily from that report: Upper Trinity River Basin Comprehensive Sewerage Plan: Management and Finance Program (Volume 3).

The 8 organizational forms considered were:

1. Private corporation
2. Coordinated joint systems
3. County system
4. Coordinated joint systems with regional finance
5. Centralized administration and contract sewerage operations

6. Regional single-purpose authority
7. Regional multi-purpose authority
8. Regional multi-purpose government

The report lists a number of criteria or value judgments upon which the alternatives were measured and evaluated. Several of the criteria are broad and general enough so that they are of limited utility in differentiating between the alternative organizational forms--for example, the first criterion mentioned by the report--or are not related to the organizational principle but rather to the subsequent detailed arrangements--such as the sixth or seventh criterion.

The criteria are:

1. Assure adherence to federal and state water quality standards
2. Facilitate comprehensive planning for water quality and provide planning interface with other regional functions
3. Respond to the will of the people
4. Control the organization locally
5. Utilize an existing governmental entity
6. Establish a definite purpose and set of objectives
7. Assign authority commensurate with responsibility
8. Require a minimum of legislative change or action
9. Respond to change as appropriate

The analysis of the advantages and disadvantages of each organizational form was not restricted to this list; nor did it refer to all of the criteria on the list--only 4 of these value statements appear to differentiate the various alternatives (2nd, 3rd, 5th, and 8th: facilitate comprehensive planning, respond to the will of the people, utilize existing governmental entities, and require a minimum of legislative action).

1. Private corporation. The major advantage cited by the consultant's report was that this option represented free enterprise activity, and in addition it would be free of the financial and personnel restraints placed on governments (i.e., no debt or bonding limitations, and no civil service regulations). Financially, it would mean that no governmental agency had to be concerned about financing.

But on the other hand, private corporations were unlikely to be able to raise the large amount of capital necessary to build the expanded facilities; in addition, it would have to pay higher costs for the capital because of its non-tax exempt financing status. The most serious disadvantages, however, appear to be the lack of responsiveness to the will of the people and the difficulty of coordinating this private effort with other areas of comprehensive planning.

2. Coordinated joint systems. This was the option recommended by the report. Its major advantages were that little or no change from current structural conditions (organizational or financial) were needed, and that the systems could still operate independently and

at the will of their respective governing boards (i.e., "no regional 'super' government would be required"--nor any additional entity, for that matter).

In addition, several financial advantages of this organizational arrangement were noted: lower interest rates because of their use of tax-exempt bonds and because they would enjoy higher bond ratings due to their past history of successful operation.

But the consultants listed several disadvantages. This organizational option would require increased coordination since four separate entities would have the responsibility for operation. Second, regional comprehensive planning and development would be inhibited since compliance would be dependent upon the willingness and cooperation of the entities. Third, since there would be four separate operating entities, the burden of enforcement of water quality standards (which would be the responsibility of regional authorities) would be increased. Fourth, additional legislation would be necessary to absorb or serve the cities currently served by the 47 plants to be phased out, as well as to increase the authority of NCTCOG and its Water Development Council to implement the plan.

The separate financial structures also created disadvantages. The separate entities may have varying needs for capital for expansion, as well as varying costs to acquire that capital, resulting in rates for service varying throughout the region.

3. County systems. If each county were to operate its own systems, then no new governmental entity would be required, and there would be uniformity of service and rates throughout the county. In addition, the county's tax-exempt status and financial strength would result in lower interest rates.

On the other hand, coordination between the counties and with the rest of the region would still be needed. This was reinforced by the report's comment that drainage basins do not follow county lines. In addition, the counties lacked the experience of operating large and complex sewerage systems. Additional legislation would be needed to permit the counties to serve areas outside of its jurisdiction.

4. Coordinated joint systems with regional financing. This organizational arrangement involves a regional administrative authority with policy-making and financial functions supervising contracts with the current operator of the sewerage systems. This would have the advantage of having planning accomplished at the regional level, while not requiring extensive changes in organization since the current entities would continue to operate the systems under contract.

The financial disadvantages of the recommended system--i.e., differing rates--would be overcome; the outstanding debt acquired could be prorated to all participants, and cost allocations could be simplified.

This arrangement still permits the use of lower interest bearing tax-exempt municipal bonds. In addition, the regional concept meets EPA and HUD guidelines for grants to finance construction. Its larger size would facilitate use of revenue bonds, and with federal grants would reduce the need for tax bond considerations with their referendum requirements and debt limitations--i.e., taxing power would not be mandatory. In addition, regional pooling of revenue would create greater financial flexibility through better investment opportunities for idle funds as well as facilitating "pay-as-you-go" financing. These advantages of regional financing were repeated for each of the alternatives subsequently described.

But this system did have disadvantages. The fragmentation associated with four different operators still required continual coordination. New legislation would be needed either to create a new regional authority, or to expand NCTCOG's authority to include financing. And a complex system of accounting and reporting might be needed in order to satisfy the needs of the authority and the separate operating entities. Regional bodies usually have less favorable bond ratings (and hence must pay higher interest rates) because their bond ratings are dependent upon the bond ratings of the individual cities contracting for services from them, and because they usually lack operating experience. This disadvantage associated with the financial structure of regional organizations was repeated for each of the regional alternatives subsequently considered by the consultants.

5. Centralized administration and contract sewerage operations. The major advantages listed by the consultant's report for this organizational arrangement is that regional planning is made possible, through the centralized regional authority, and coordination of activities is made possible through a contract with a single entity for the operation of the entire system. The financial advantages of a regional authority noted above were repeated.

The selection of the single entity to operate the entire system was cited as a difficult political question and a major disadvantage of this alternative. In addition, it was argued, the amount of effort necessary to coordinate the sewer systems with other regional functions "could be unjustified and more costly," especially since the regional authority's control over the sewerage system would be limited by the terms of the contract. The use of a contract was also seen as a limitation upon the ability of the people to influence the operation of the system. But the recommended system (coordinated joint systems) with its appointed Water Development Council was not criticized for any inability of the people to influence the operation of the system. Another new argument was raised by the report at this point: since one of the existing operators would be awarded the contract for the entire system, it might serve its own residents better and neglect outlying regional customers. The report also listed the need for legislative changes to broaden the existing regional organization and the financial disadvantage resulting from the regional authority's lack of operating experience.

6. Regional single-purpose authority. A regional authority--whether it was a single-purpose authority (considered here), or a multi-purpose authority (see 7, below), or a multi-purpose government (see 8, below), was viewed as having several advantages. First, there would be coordinated regional management of the sewerage system. Second, there would be improved service to its customers because of increased efficiency, uniform handling of service calls, better control of engineering standards for connecting services, and tighter control on industrial users. Although one may argue that these improvements are more likely when there is a single operator, it is interesting to note this advantage was not cited for the single operating contract discussed above (i.e., in 5. "Centralized administration and contract sewerage operations"), nor is it unlikely to occur in the recommended system (i.e., 2. "Coordinated joint systems"), where it was not mentioned either. A single system was also seen as resulting in decreased administrative costs (although it was not mentioned as an advantage of a single contractor, nor as a disadvantage of the recommended system relying on four separate operating entities). To remind our reader, the financial advantages of regionalism noted above were cited here too.

The disadvantages of a single-purpose regional organization were seen as: the creation of a new governmental entity, the requirement of a new legislation, and the removal of control from local governmental jurisdictions. The financial disadvantage of regionalism in general was noted here too.

7. Regional multi-purpose authority. In addition to the three advantages of a regional single-purpose authority noted above, (coordinated regional management, improved service, decreased administrative costs), the greatest advantage for this organizational arrangement was that such a group already exists in the region--i.e., the Trinity River Authority--and no new entities or levels of government would be required. Financial advantages (and disadvantages) of regionalism were noted.

The disadvantages of the alternative were described as follows: (p. IV-17)

> The major disadvantages are highlighted in that (1) local citizens may feel that they would have little, if any, voice in the operation of the system and (2) no coordination would be required with other regional functions. The authority concept would utilize an appointed board and serve customers through contracts, local officials and citizens might perceive that the authority might not be responsive to their requests.

8. Regional multi-purpose government. A regional government would be able to coordinate sewerage with other governmental functions, while the accomplishments of improved service and reduced administrative costs (and coordination of sewerage systems management - although this was omitted from the report) would still occur.

Financial advantages and disadvantages are as noted in the previous sections on regional alternatives.

The disadvantages listed for a regional multi-purpose government are the same as for single-purpose regional authority (number 6 above): it would require an additional governmental entity, new legislation, and remove control from local government jurisdiction.

The consultant's report went on to discuss various alternate financial methods and cost allocation formulas, but these will not be discussed in this field report. The report concluded with a listing of factors that would be necessary in trying to gain the support of local and regional bodies. These were: (1) awareness of the problem, (2) acceptance of the regional plan, (3) leadership, (4) cooperation, (5) general concern for the water quality of the region, (6) cost effectiveness, and (7) interest in continued development of the Trinity River.

Ecological Study

One of the accomplishments that the Planning Department points to with pride is its sponsorship and participation in an ecological study of the Dallas County area. When the task of reviewing Environmental Impact Statements was assigned to the Planning Department, it quickly became evident to them that they had no data bank from which to draw estimates of the environmental impacts of proposed projects.

Their subsequent budget included $25,000 for a study for an ecological data bank. However, when they contacted several environmental consultants, their estimates for an appropriate study design ran from $200,000 to $300,000. However, another consultant, who had directed a routing study for Wisconsin Power and Light Company which involved displaying ecological data on maps, agreed to do the study for the budgeted sum, providing the Planning Department did the data source search and coding (under the supervision of the consultant). The consultant would also be responsible for interpreting infrared maps, the modelling of tolerance levels, and the programming necessary to display the data on maps.

The staff met with a panel of local environmental experts in a day-long seminar. These local experts identified critical data elements, weighed their relative significance, and provided information on where to find the data. One important reason why the project could be completed within the cost restraints was that much of the data had been collected already by other agencies and the study had merely to code it for its own use. Virtually all of the data were from secondary sources, although some field visits were made to collect some data. Important sources for information included United States Geological Service maps, infrared mapping from the National Aeronautics and Space Administration, Corps of Engineers, Soil Conservation Service, Dallas Geological Society, and local experts.

Criteria were developed for the selection of variables to be included. These included:

1. Enable spatial relationship of information.
2. Enable recording of information for future use in impact quantification.
3. Enable value judgements to be placed upon systems and their sub-units.
4. Allow for the up-dating of the stored information.
5. Allow for the analysis of information for multi-purpose planning.
6. Be feasible from an economic and time standpoint.
7. Enable in-house capability for carrying on the planning process.
8. Enable transfer of programs and methodology for on-going in-house operation.
9. Provide the complexity of data appropriate to the level of decision-making required.

Data was collected on 32 natural resource variables and 3 measures of urbanization. The natural resources were part of 5 eco-systems; there were 5 zoological characteristics (e.g., Pileated Woodpecker habitat, complex wildlife areas), 10 botanical characteristics (e.g., unique botanical areas, natural and man-made marsh), 14 hydromorphic characteristics (e.g., flood plains, watersheds), 1 edaphic characteristic (i.e., 9 soil associations), and 2 geomorphic characteristics (i.e., 7 surface geology types, and fault lines). See Addendum c for the complete list of variables for which data was collected. In addition to the individual variables, maps were also generated from them for 6 eco-systems (hydromorphic was subdivided into surface and sub-surface), and for 2 broader systems--the biotic (i.e., botanical and zoological) and abiotic. A number of other maps were also generated and will be discussed later.

The data on these variables were collected for 10,000 grids or cells. Although this seems large, it must be noted that the study area (Dallas County) was 900 square miles. The result is that each cell contained 61.8 acres--or to put it another way, each cell was 1/3 mile in length. This relatively large size was deemed appropriate, considering the scale of the data source maps and hence the efficiency of delineating and extracting the data, and the level of decision-making requiring the data to be collected. Despite the assurance that quite a few developments in Dallas exceed 62 acres, it seems that cells of such a large size limit the utility of the project.

Once the data were collected, and interpreted and delineated (i.e., to fit the grid scale of the study), patterns were extracted (i.e., either the predominant pattern for a resource in a cell was noted, or the proportion of the cell covered by the resource was calculated). The next step was to code these data; a numerical code was used on OCR (Optical Scanner Reader) forms. (The equipment used for the project included: one IBM 370 OS VS1, five IBM 2402 Tape Drives, one IBM 1404 Printer, three IBM 2319 Disc Storage Devices, one IBM 2540 Card Reader Punch, and one IBM 1287 Optical Character Scanner.) The final step of the process involved producing maps for each of the variables. See Addendum d for sample maps.

In addition to indicating the predominance and location of these natural resources, a major element of the program is to indicate the sensitivity of these resource patterns to human impact. The consultant was responsible for the modeling that resulted in these estimates of tolerance, although judgments for some of the component factors were often made by the local experts. These maps of resource tolerance could then be combined under a variety of conditions or value assumptions. For instance, a map was produced which assumed that the preservation of each eco-system was of equal importance and hence indicated the tolerance of the area for development or human impact; a second map merely showed the areas where there was a multiplicity of ecological subsystems rather than their degree of tolerance; a third map assumed that the biotic component was twice as important as other components (they noted that the biotic community was easier to identify and observe, and therefore could serve as a valuable indicator of the changes occurring in the ecological environment). A fourth map utilized the urbanization data and therefore suggested (when combined with other data from the study) which areas were suitable for urban development.

The ecology project, according to the report prepared by the consultant entitled Dallas Eco-Study, was viewed as performing three basic functions: (1) it identified, quantified, and mapped the extent and location of 32 natural resources that are part of the Dallas County ecological system, (2) it stored and displayed the data on the relative tolerance of the ecological systems to human impacts, and (3) it provided a mechanism for the development of models to evaluate the impact of projects on natural resources.

A number of other functions or uses of the study could be noted, too:

1. Several members of the Planning Department now have an intimate knowledge of the ecological environment of the Dallas area by virtue of the in-house effort devoted to the project by the Planning Department--two men worked virtually full-time on the project for a year, and another two were involved for 8 months, for a total of 40 man-months.

2. The Planning Department has developed its skills, by its participation on the project, so that it can carry out much of the program envisioned for Phase II or even later developments; Phase II includes expanding the system to include so-called "cultural" variables such as census data, historic landmarks, land use, and land values; subsequent phases may involve updating the data, or even revising them for a smaller grid system.

3. A mechanism has been developed that may be useful in monitoring the degradation of the ecological environment--or more optimistically, the protection or enhancement of this portion of man's environment.

4. The results of the project may be useful for studies of general routing (e.g., regional transit) or siting of public facilities. But it must be noted that specific or detailed planning or evaluation cannot be done because of the large size of each cell (approximately 62 acres).

5. An instrument has been developed that will prove useful as an environmental education tool--e.g., its role as part of the environment curriculum to be developed for Dallas schools on an experimental basis under a recent grant from the Department of Health, Education, and Welfare.

6. It has served as a vehicle for enlisting community participation. In addition to the efforts of the consultant and the Planning Department staff, approximately 25 volunteers in groups of three to four worked twice a week for six months (or approximately 2-3 man-months of effort) coding the data.

Environmental Quality Standards and Enforcement

In discussing environmental quality standards and associated enforcement processes, a logical starting point would be to analyze the state agencies and their role, followed by an analysis of Dallas' activities. The focus here is on air and water pollution.

In 1965, the State of Texas created the Texas Air Control Board as a semi-autonomous arm of the State Department of Health. The governor appoints a nine member Board, including an engineer, a licensed physician, a representative from industry, a municipal government representative, an agricultural engineer, and the remaining four from the general public. A primary goal of the Board is the development of a general plan for the control of air pollution by adopting and promulgating rules and regulations governing air pollution. In addition, it directs the activities of the Texas Air Control Program, administered by the State Department of Health, and includes investigating possible sources of air pollution, holding hearings on complaints for litigation through the Attorney General's Office, and seeking compliance with its regulations. The Board has established a standard for particulate matter at 55 micrograms/cubic meter, as compared with the federal primary (the level at which human health is affected) and secondary (the level at which effects are felt on "human welfare values") standards of 75 micrograms/cubic meter and 60 micrograms/cubic meter. The State Board operates regional offices in cities without air pollution program, and this is especially the case with the suburbs in Dallas County.

In the City of Dallas, the Air Pollution Division, of the Health Department was created in 1966. In 1968, the city council adopted an ordinance for the initiation of an enforcement program. At the present time, the Air Pollution Control Section has 24 permanent employees, with twelve of these being added during the last eighteen months. Those employees involved in enforcement process go every six months for training programs and examination by the Texas Air Pollution Control Board. The Air Pollution Control Section has an operating budget of $269,000 with 50% of the revenues from the City's general fund and the remaining 50% from a federal grant. For the purpose of this discussion, the functions will be artifically divided into monitoring and enforcement activities. The monitoring is generally conducted on a routine sight inspection or surveillance. If a question does arise, a sample is collected and tested in the laboratory for elements other than hydrocarbons. For monitoring purposes the City is divided into five sections with two inspection teams conducting the inspection. In addition, the Section monitors the overall air quality and issues warnings, if necessary, as well as 24-hour forecasts. The air pollution index combines two factors (particulate matter and NO_2) into a numerical scale:

0 - 30 Light
31 - 60 Moderate
61 - 90 Heavy
91 - 100 Severe
100 above Alert

It should be pointed out that 85-90% of the air pollution is caused by the automobile, but the Section does not get involved at all in auto emission standards and enforcement.

The enforcement function of the Section is oriented toward close cooperation between government and industry. If voluntary compliance is not achieved after continual surveillance, the Section has taken industries violating the air quality standard to court. At the present time, there have been 18 convictions with fines of generally $100, four cases were dismissed, and two cases are presently in the district courts. The fines while not significant in terms of monetary value, have been made. It is estimated that since 1966, industry in Dallas has spent $2.5 million for equipment and an equal amount for maintenance and operation of air pollution control systems. The Air Pollution Control Section points out that the annual mean level of particulate matter has declined from 106 micrograms/cubic meter in 1967-1968 to 78 micrograms/cubic meter in 1970-1971. At the present time, there is minimal information regarding gaseous pollutants.

In 1967, the State of Texas passed the Texas Water Quality Act, succeeding the Texas Water Pollution Control Board. The Water Quality Act outlines a statewide control system to coordinate all water quality control programs of various state agencies and local governments with those of the Federal government. The Water Quality Board requires cities over 5,000 to have a water quality surveillance program with a laboratory and the development of a plan describing what the city can do and is doing regarding the problem of surface runoff. In addition, the Board does maintain regional offices.

The City of Dallas has had an industrial waste ordinance since 1958 and is in the process of upgrading the industrial waste standards in keeping with federal guidelines. These new standards are aimed at better pre-treatment by industry and reclamation of some materials that would otherwise reach downstream. The primary sources of water pollution are:

- --industrial wastes
- --insufficiently treated sanitary sewage
- --insufficiently treated storm sewage
- --septic tank overflow
- --agricultural runoff conaining chemical fertilizers and pesticides

The Water Department is responsible for industrial waste water discharges.

In addition, there is the Water Quality Surveillance Program administered by the Water Quality Section of the Health Department. The Water Quality Section has a staff of twelve persons, five of which are responsible for discharges into creeks and storm drains and for monitoring discharges under permits from the Texas Water Quality Board. The enforcement programs have stressed cooperation. Dallas has little heavy industry except for concrete and cement manufacturing firms. Out of some two hundred cases, one or two have been referred to the Texas Water Quality Board with accompanying threats of legal action. At the present time, no cases have been taken to court.

Water Reclamation Research Center

As an integral part of their waste water program, the City of Dallas has established the Water Reclamation Research Center to conduct research on a possible prototype, advanced waste water treatment facility. The idea started in 1965 when it became evident that at some future date, Dallas might be forced to reuse its water resources. By 1967, a plan was finalized and application to the Federal Water Quality Office for federal assistance was made. The purposes of the Research Center was to develop design criteria and construction programming to upgrade plant effluent. The demonstration plant consisted of a building to house instrumentation, chemical feeding equipment, and filtration units. In addition, the facility included:

- --two aeration basins and a final settling basin for studying the activated sludge process
- --a solid contact upflow basin for studying coagulation and clarification
- --a chlorine contact basin for studying disinfection of the waste water.

The plan proposed the study of the following items:

- --lime assisted phosphate precipitation followed by activated sludge treatment and filtration
- --activated sludge treatment with and without sedimentation followed by coagulation and lime-assisted phosphate precipitation and filtration
- --phosphate removal by activated sludge
- --combinations of trickling filters with activated sludge treatment.

Construction on the Research Center began in 1969 and was completed in April 1970. For two years a rigorous research program was undertaken in cooperation with Texas A & M University which resulted in 98% removal of BOD and suspended solids. The program for the pilot demonstration plant cost $850,000 of which 56% was from the federal grant and 44% local funds. The accompanying research laboratory also cost approximately $850,000 with 65% of the funds from federal grants and 35% from local funds. By June 1972, the Research Center had successfully completed its research on the removal of BOD and suspended solids. To continue research design for water resource reuse, the Research Center is presently engaged in viral research, an area where little is known on the effect of waste water treatment on viruses.

SUMMARY

The City of Dallas does not appear to have as severe environmental problems as other major urban centers. Its geographical location, natural environment, and clean industries aid programs in improving environmental quality. Dallas and its regional governmental bodies have developed many diverse environmental programs for environmental management. The development of an ecosystem inventory is a major innovation which could be followed by other municipalities. The research effort on waste water treatment could help municipalities faced with similar water resource problems.

ADDENDUM a.

ORDINANCE NO. 13113

An Ordinance amending Section 35-66 of Article VIII of Chapter 35 (Dallas Plumbing Code) of the 1960 Revised Code of Civil and Criminal Ordinances of the City of Dallas, Texas; Providing for the regulation of the discharge of industrial wastes and domestic sewage; Providing for a Savings Clause; Providing for a fine not to exceed Two Hundred Dollars ($200.00); and, Providing for an effective date.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

SECTION 1. That Section 35-66 of Article VIII of Chapter 35 of the 1960 Revised Code of Civil and Criminal Ordinances of the City of Dallas, Texas, is hereby amended so as to hereafter read as follows:

> "Section 35-66. Industrial Wastes. All industrial wastes or domestic sewage being discharged to a storm drain, storm sewer, drainage ditch, or water course within the city limits of the City of Dallas shall discharge to and be connected with the sanitary sewer system of the City of Dallas. Any exception to the above will be with the approval of the Director of Public Works, and the Director of Public Health, and with the permission of the Texas Water Quality Board to discharge such industrial waste to a storm drain, storm sewer, drainage ditch, or water course within the city limits of the City of Dallas.
>
> Wastes which are detrimental to the public sewer system or are detrimental to the functioning of the sewage treatment plan, shall be treated as provided in Section 35-102 or as may be required to comply with other wastes that are prohibited in whole or in part as is specifically detailed in Section 49-100 of Article III of Chapter 49 of the Revised Code of Civil and Criminal Ordinances of the City of Dallas, Texas."

SECTION 2. That Chapter 35 (Dallas Plumbing Code) of the 1960 Revised Code of Civil and Criminal Ordinances of the City of Dallas, Texas, as heretofore amended, save and except as amended herein, shall remain in full force and effect.

SECTION 3. That this Ordinance shall become effective immediately upon its passage and final publication in accordance with the provisions of the Charter of the City of Dallas, and it is accordingly so ordained.

APPROVED AS TO FORM:

N. ALEX BICKLEY, CITY ATTORNEY

By: David W. Howell
Assistant City Attorney

Passed: November 2, 1970
Correctly Enrolled: November 2, 1970
ATTEST: Harold G. Shank
City Secretary

ADDENDUM b.

ORDINANCE NO. 13489

An Ordinance creating the COMMITTEE ON ENVIRONMENTAL QUALITY; providing a term for which the Committee shall exist; providing a staff to assist the Committee; generally prescribing the scope and purposes of its activities; providing for a report and recommendations to the City Council; repealing Ordinance No. 13386; and providing an effective date.

- - - - - - - - - - -

WHEREAS, in its report to the City Council, the Committee to Study the Feasibility of Creating an Environmental Quality Board for the City of Dallas, as a result of its deliberations, has recommended the establishment of a committee on environmental quality; and

WHEREAS, a broad policy framework is needed to guide City Departments and officials toward coordinated action to assist in solving the problems of air, water and noise pollution; Now, Therefore,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

SECTION 1. CREATION OF THE COMMITTEE ON ENVIRONMENTAL QUALITY. There is hereby created a committee to be known as the COMMITTEE ON ENVIRONMENTAL QUALITY, hereinafter called "the Committee", which shall be an advisory body and shall be composed of seventeen members, including a Chairman, Vice Chairman, and fifteen other members; the Chairman, Vice Chairman and members to be appointed by the City Council. The members shall serve without pay and shall adopt such rules and regulations as they may deem best for the governing of their actions, proceedings and deliberations and shall set the time and place of their meetings.

The members of the Committee shall be citizens of the City and shall be selected from among the following groups: Architects, planners, landscape architects, engineers, medical societies, home builders, real estate, professionals, industry, environmental organizations, League of Women Voters, American Association of University Women, high school students, college students and others that the City Council shall determine.

SECTION 2. TERM OF SERVICE. The members of the Committee shall serve for a term to expire six (6) months from the date of the swearing in of a majority of the Committee, at which time the Committee shall have completed its assignment and shall present a report and briefing to the Council. The City Council may, by resolution, extend the term of the members of the Committee beyond said date upon a determination of the necessity for such extension.

SECTION 3. STAFF. The Committee shall be aided in its work by the staff of the City Manager's Office and by the staffs of appropriate Departments of the City.

SECTION 4. SCOPE OF ACTIVITIES. The purposes, aims and scope of the activities of the Committee herein created, shall be generally the development and submission of a recommended City-wide environmental policy, with consideration of specific categories and environmental concerns including, water (pollution and thermal condition) quality, air pollution (including dust, odor and equipment emissions), noise pollution, visual pollution, open space, land use, population, and solid waste pollution. The pursuit of such assignment by the Committee shall involve the following:

(1) Assessment of environmental preservation action and improvements accomplished or in progress.
(2) Identification of instances where environmental improvements can be made.
(3) Inventory and documentation of community environmental problems, ranking them in order of severity of effects on residents.
(4) Identification of needs for the following:
    (a) Research, experimentation and expanded special environmental projects;
    (b) Planning strategies;
    (c) Programs for public information.
(5) Definition of an appropriate City role in the solution of environmental problems.
(6) Submission of recommendations for new and revised ordinances and regulations for environmental improvements.
(7) Development of recommended changes in City procedures, programs, or activities that contribute to the solution of our environmental problems.
(8) Suggestions as to means of creating an awareness of environmental problems throughout the community.
(9) Identification of opportunities for community cooperation, interagency cooperation and intergovernmental cooperation in programs to improve the environment.
(10) Such other related matters that the Committee deems of benefit to the City Council in attacking the environmental problems of the City.

SECTION 5. REPORT. The Committee, in its advisory capacity, shall make its report and recommendation in writing to the City Council six months from the date of the swearing in of a majority of the Committee, unless such deadline is extended by resolution from the City Council.

SECTION 6. REPEAL OF ORDINANCE NO. 13386. That Ordinance No. 13386, passed by the City Council on September 27, 1971, is hereby expressly repealed; provided that all appointments made by the City Council under said Ordinance shall constitute valid appointments hereunder.

SECTION 7. ORDINANCE NOT TO BE CODIFIED. Since this Committee is of a temporary nature, this Ordinance shall not be codified as a part of the 1960 Revised Code of Civil and Criminal Ordinances of the City of Dallas.

SECTION 8. EFFECTIVE DATE. That this Ordinance shall take effect immediately from and after its passage in accordance with the provisions of the Charter of the City of Dallas and it is accordingly so ordained.

APPROVED AS TO FORM:

N. ALEX BICKLEY, CITY ATTORNEY

By: ANALESLIE MUNCY
ASSISTANT CITY ATTORNEY

Passed: January 3, 1972

Correctly Enrolled: January 3, 1972

ATTEST: Harold G. Shank
City Secretary

ADDENDUM c

ECOLOGICAL STUDY NATURAL RESOURCE VARIABLES

CULTURAL CHARACTERISTICS (3)

020	Urbanized Area 1959
021	Urban Growth 1959-68
025	Urbanized Area 1970

ZOOLOGICAL CHARACTERISTICS (5)

100	Rookery
101	Pileated Woodpecker Habitat
102	Black Capped Vireo Habitat
103	Trinity River Floodplain
104	Complex Wildlife Areas (generated)

BOTANICAL CHARACTERISTICS (10)

150	Unique Botanical Areas
151	Cedar Break
152	Upland Forst
153	Lowland Forest/Gulches, Gullies, & Small Streams
154	Black Prairie (generated)
155	Marsh (Natural)
156	Aquatic (Natural)
157	Marsh (Man-Made)
158	Aquatic (Man-Made)
159	Lowland Forests/Flood Plain

HYDROMORPHIC CHARACTERISTICS (14)

250	Watersheds
251	Lake
252	Pond
253	River
254	Stream
255	Intermittent Stream
256	Intermittent Lake
257	Intermittent Pond
260	Flood Plains
261	Flooded Area Dependent upon Pumps
262	Aquifer: Woodbine Sand
263	Aquifer: Paluxy Sand
264	Aquifer: Basal Trinity Sand
265	Aquifer: Woodbine Recharge Area

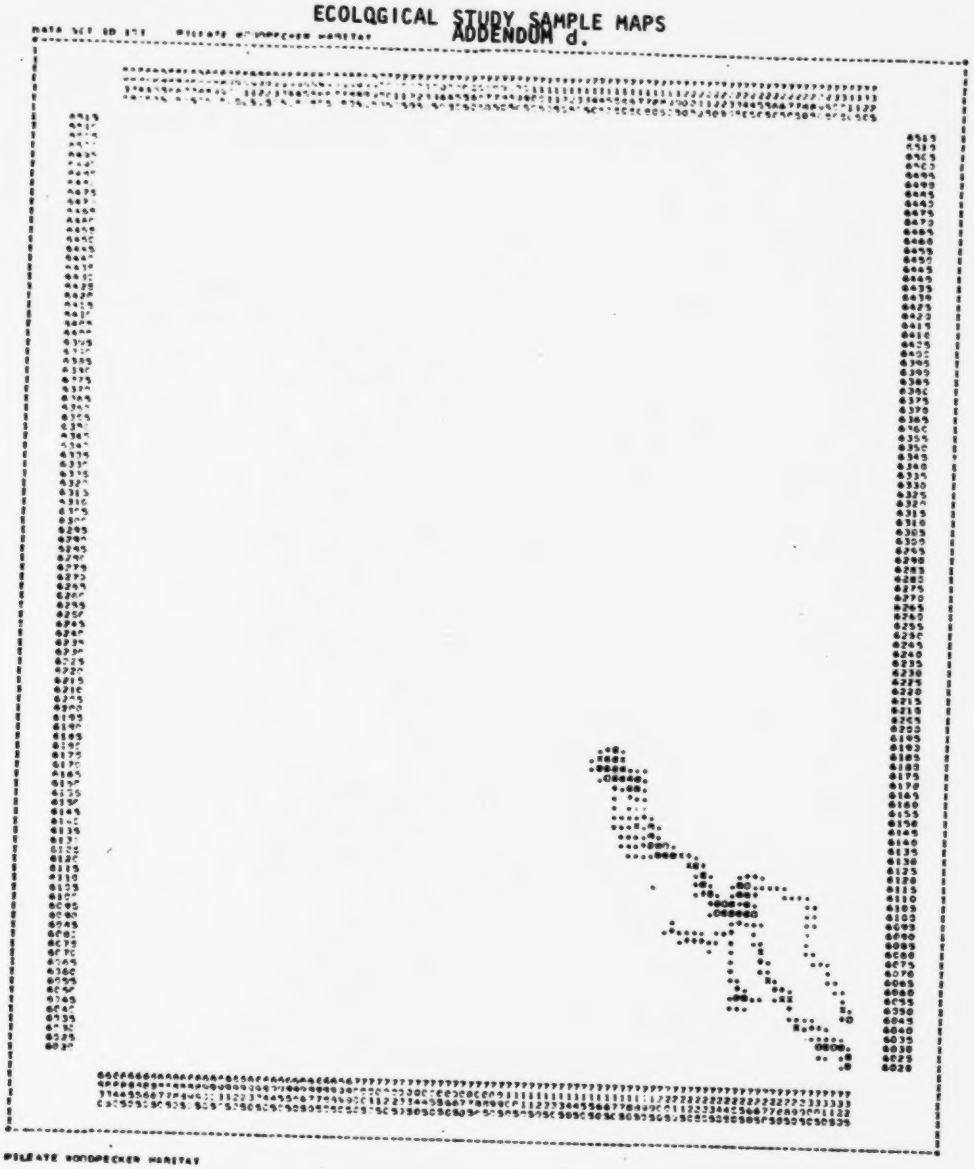
EDAPHIC CHARACTERISTICS (1)

300	Soil Associations

GEOMORPHIC CHARACTERISTICS (2)

350	Surface Geology
351	Faults

ECOLOGICAL STUDY SAMPLE MAPS
ADDENDUM d.


DATA SET ID 1C1 PILEATE WOODPECKER HABITAT
PILEATE WOODPECKER HABITAT

PILEATED WOODPECKER HABITAT

DALLAS ECOLOGICAL STUDY
PREPARED FOR
DALLAS PLANNING & URBAN DEVELOPMENT
BY
LANDSCAPES LIMITED
634 WEST MAIN STREET
MADISON, WISCONSIN
CONSULTANTS

DATA MAPPED IN 10 LEVELS

ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL

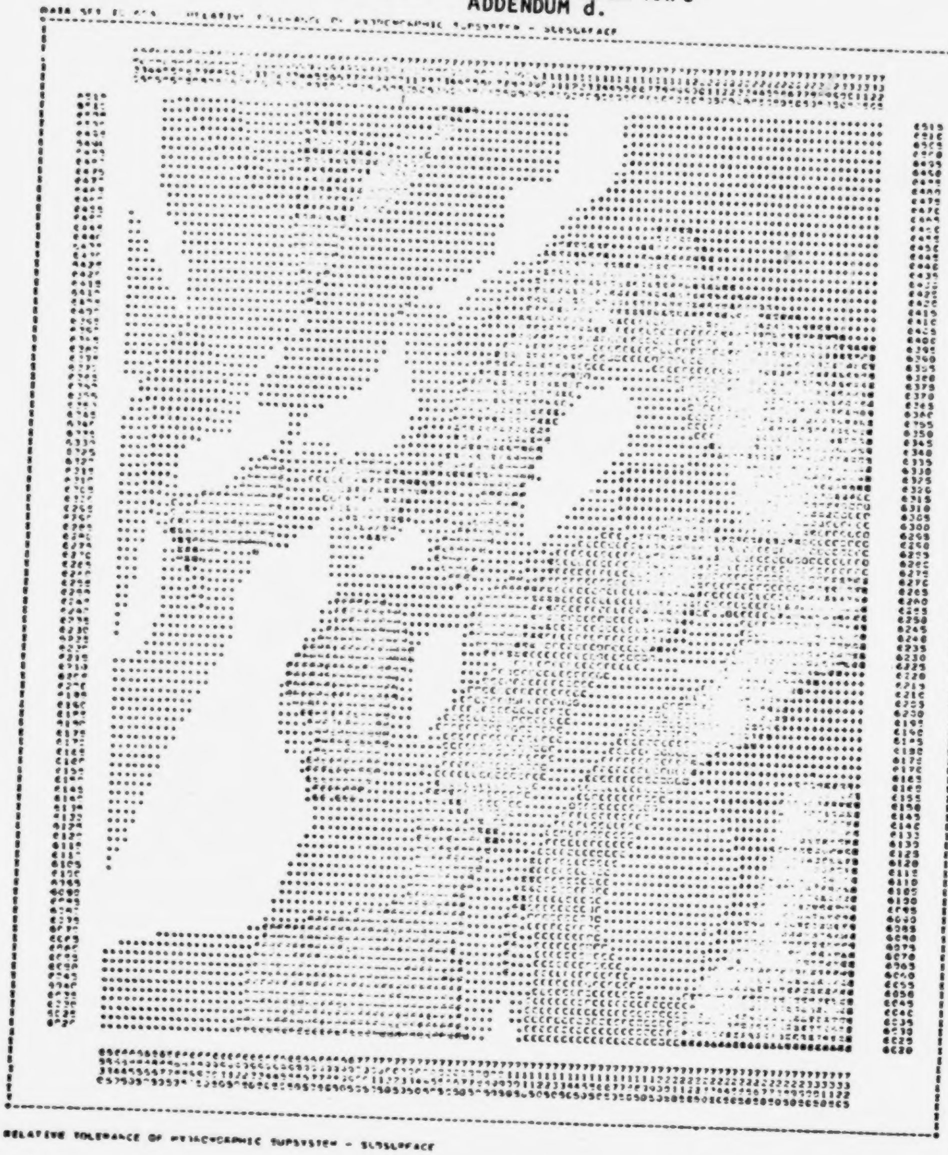
MINIMUM	001	010	020	030	040	050	060	070	080	090
MAXIMUM	009	019	029	039	049	059	069	079	089	099
PERCENTAGE OF TOTAL ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL	25.89	19.64	13.39	12.50	4.91	4.02	4.02	6.25	3.57	4.02
LEVELS	1	2	3	4	5	6	7	8	9	10
SYMBOLS	:::::::::	:::::::::	:::::::::	:::::::::	:::::::::	CCCCCCCCC	=========	●●●●●●●●●	●●●●●●●●●	●●●●●●●●●
FREQUENCY	58	44	30	28	11	9	9	14	8	9

ZERO VALUES 4776

DATA SET ID 1C1 RUN-DATE 10/10/72

FIGURE 32 ZOOLOGICAL CHARACTERISTIC: PILEATED WOODPECKER HABITAT

ECOLOGICAL STUDY SAMPLE MAPS
ADDENDUM d.



RELATIVE TOLERANCE OF HYDROMORPHIC SUBSYSTEM - SUBSURFACE

HYDROMORPHIC - SUBSURFACE

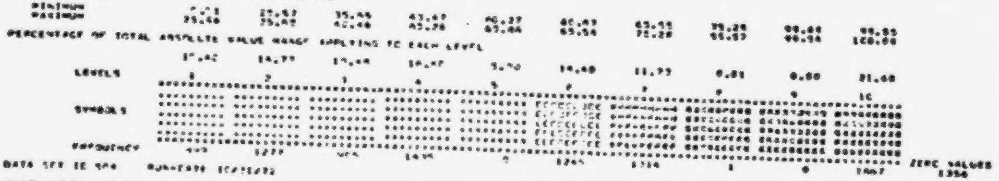
DALLAS ECOLOGICAL STUDY
PREPARED FOR
DALLAS PLANNING & URBAN DEVELOPMENT
BY

LANDSCAPES LIMITED
834 WEST MAIN STREET
MADISON, WISCONSIN
CONSULTANTS

DATA MAPPED IN 10 LEVELS

ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL

PERCENTAGE OF TOTAL ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL



DATA SET ID 604 RUN-DATE [illegible]

FIGURE 44

RELATIVE TOLERANCE OF HYDROMORPHIC SUBSYSTEM - SUBSURFACE (604)

APPENDIX 3

REPORT ON THE FIELD TRIP TO INGLEWOOD, CALIFORNIA

Introduction

Inglewood is a city of 90,000 population concentrated in 8.85 square miles. It is one of seventy-seven cities in Los Angeles County, and much of the city lies in the landing approach to one of the world's busiest airports (Los Angeles International). It was incorporated in 1908 and there are a number of homes that date to that era. Its government is a council-manager system.

Each of these characteristics affects the nature of its environment or the strategies and organization adopted to manage it. The city manager is a dynamic leader and a major source of policy innovation. Innovation, generally, is not hampered by a lack of home rule; "...by general law [California] grants all cities a greater range of authority than many other states allow their municipalities even under home rule.... The classification of cities into 'general-law' and 'home-rule' (or 'charter') categories consequently loses most of its significance in this state."* The city's age has meant it contains a number of older houses ready for destruction, and because of the economics of housing it has seen large areas rezoned for apartments. Its proximity to Los Angeles' ghetto has led to an interplay of the issues of growth and race. Its proximity to Los Angeles' airport has made noise pollution its major environmental problem and a high priority political issue. Being only one city in a very large metropolitan area means it has little control over its environment. Inglewood's decision makers have no control over major sources of pollution which are external to its city limits, and even some local sources of pollution are the responsibility of other units of government. For example, air pollution in the Los Angeles Air Basin is the responsibility of the Air Pollution Control District rather than the individual cities' responsibility. In addition, the economic interdependence of a metropolitan area means that local businesses are frequently owned by non-residents and that residents usually work outside the city limits, resulting in a complex pattern of political identification, which is compounded by meager media coverage of local government other than Los Angeles'. One consequence of this is that local units of environmental interest groups are organized to play an active role at the metropolitan level rather than in the individual suburbs. Its population density suggests a fully developed city with relatively little open space available for public recreation (when city fathers proudly point to planters and "open-space" on the third floor of its Civic Center as one of its parks, one can easily understand that Inglewood is far from typical.)

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*Henry A. Turner and John A. Vieg, The Government and Politics of California (New York:McGraw-Hill Book Company, 1964), pp. 203-04.

This report covers Inglewood's environmental program. First it examines their program in noise pollution which includes a program of legal suits, and a set of standards and machinery to monitor and enforce them, as well as a number of other activities. Then it reports on Inglewood's use of the Environmental Impact Statement process for both public and private projects. A third area of attention is the Property Maintenance Program which Inglewood considers part of its environmental management strategy because it is geared to impede deterioration and therefore to improve aesthetics while obviating the need for some urban redevelopment projects. Finally, the report briefly examines the organizational arrangement used to manage the environment.

NOISE

Inglewood's concern with the environment as a policy issue began with the aircraft noise problem. Its concern soon expanded to include other sources of noise pollution. It then developed still further until it included the other traditional aspects of the physical environment. Eventually environment as a policy was integrated with other social policy issues.

The noise problem for Inglewood, which is adjacent to Los Angeles International Airport, had increased with the almost exclusive use of jets and with the great growth of air travel that marked the 1960's. Although the aircraft noise problem was obvious to anyone walking the streets of Inglewood, it manifested itself as a serious political problem at several neighborhood meetings held during the first month of service of the new City Manager (April 1968). Threats of political action against City Council incumbents running in the forthcoming election made it evident that an immediate program of action was necessary. An internal staff investigation was initiated by the City Manager, a former pilot, and the City Attorney (who also came into office in April 1968) and encouraged by the Mayor, who was also a former pilot. It proceeded while an acoustical consultant hired by the previous City Manager prepared his report. The latter was issued in November 1968 and contained technical and other data on noise in Inglewood.

These initial studies indicated a need for further data, as well as provided a framework for the future environmental management strategy for Inglewood. The need for further data was partially met by a study indicating that real estate values had been adversely affected by aircraft noise.* Plans were also developed to monitor the noise in Inglewood's environment. Subsequent studies also brought confirmation of citizen concern about noise -- a 1969 survey indicated that almost half the respondents listed aircraft noise control as the most important community issue, and a 1970 survey found that sixty-one percent felt that finding a solution to the jet noise problem was "of greatest importance" (this compared to seventy-three percent for crime in the streets and thirty-two percent for school integration/segregation.)

The strategy evolved into a ten-point program that was adopted by the City Council in September 1969. The program was to be carried out, in part, by a newly created Environmental Standards Division that was formally placed within the Building Department, but actually reported directly to the City Manager. A Director was hired in November 1969 after a recruitment compaign that included newspaper advertisements, including a successful ad in the Wall Street Journal.

The ten-point plan called for:

1. A series of law suits against Los Angeles for damages on behalf of residents and property owners in Inglewood, and to compel them to extend their runways thereby permitting landing aircraft to be at a higher altitude while over Inglewood.

   With the help of special counsel, a suit was filed against the City of Los Angeles (which owns the airport) in the U.S. District Court in May 1969. A practically identical suit was filed in the California Superior Court in October 1969. The main reason for initiating the backup suit in the state court was that it had a lower minimum monetary jurisdiction -- a plaintiff has to have damages of $10,000 to sue in federal court, but only $5,000 in the state court.

   The federal court ruled that Inglewood did not have standing to sue. This decision was appealed to the Court of Appeals which ruled that Inglewood could sue and remanded the case back to the lower court which, in part, was to determine as part of the trial whether the owners had suffered the minimum amount of damages necessary for a federal suit.

---

*The computerized correlation study showed that high noise levels were associated with low land values. The correlation was statistically significant and indicated that land subject to noise levels less than 80 PndB were valued on the average fifty percent higher than land subject to noise levels greater than 110 PndB. High noise levels were also associated with high vacancy rates. The vacancy rate correlation was statistically significant for rental dwelling units and showed that on the average the vacancy rate was fifty percent higher in areas subject to aircraft noise levels above 110 PndB than in areas where aircraft noise was less than 80 PndB.

But Inglewood decided to drop their federal suit and press their case in the state court. They won the first round when the court rejected Los Angeles' motion to dismiss the case on the grounds of "multiplicity of actions" (i.e., the suit in Federal Court and a separate suit by a group of Inglewood residents). Los Angeles' appeal of this decision is now under consideration. In addition, since Inglewood's suit in federal court was filed in behalf of residents, some of these are trying to have the Federal suit reinstated.

This discussion of Inglewood's civil suits clearly indicates one of the major weaknesses of this strategy -- i.e., it is subject to great delays, increasing its costs.

Inglewood's criminal case did not fare better. When the city filed misdemeanor charges in March 1971 against an airline's pilot for violating its noise ordinance, an injunction against enforcement of this part of the ordinance was issued.

An additional aspect of Inglewood's "legal" strategy, was its financial support for the appeal of a case involving the efforts of a near-by city (Burbank) to control evening flights from an airport within its own city limits. This case was decided against Burbank on May 14, 1973, by a 5-4 vote of the U.S. Supreme Court, which, however, apparently still left open the question of whether municipally owned airports could regulate aircraft noise at its own facilities.

2. A comprehensive noise ordinance. Development of the ordinance and enforcement of it required a variety of monitoring equipment. The equipment that was purchased included a van which contained a microphone, precision sound level meter, octave band analyzer, graphic recorder, stereo tape recorder, aircraft band and shortwave radios, camera equipment, and tools and other accessories. Some of this equipment was for the city's general noise monitoring program, but some of it was for its specialized campaign on aircraft noise. In addition to this portable equipment, there were also four fixed microphones on telephone poles in the flight path and a central recording station in City Hall to receive the aircraft noise data. It should be noted that a city could begin its program with a relatively simple hand-held meter (although it would have limited utility for any court cases).

The equipment also provided the City with data needed for its suits.

Financing for the equipment -- which cost approximately $50,000 -- and staff originally came from a special four percent utility tax earmarked for this purpose, but the program is currently financed from the general fund.

The noise ordinance that was adopted is similar to the Model Noise Ordinance developed by the League of California Cities. The ordinance establishes standards which vary according to different zones and times. For instance the assumed base ambient noise level for residential areas at night is forty-five dbA, while it is fifty-five dbA during the day; this compares to sixty-five dbA for commercial zones during the day. Any continuous noise five dbA above the ambient level is prohibited; guidelines suggested that intermittent noise (less than five minutes an hour) should not exceed ten dbA above the ambient, and short duration noise (lasting only a few seconds) is limited to fifteen dbA above the ambient for purposes of enforcement.

A special provision was written for aircraft noise. Because of earlier federal court rulings limiting the power of other cities to regulate interstate commerce such as airplane flights,* the ordinance exempted any planes flying in conformities with federal air regulations or traffic control instructions. But if a plane was in violation of these rules -- e.g., flying significantly below the proscribed landing approach glide path -- it was prohibited from producing noise levels above ninety dbA.

The ordinance took effect in November 1970, and the first plane was cited for violation of it in March 1971. But immediately after this misdemeanor citation was issued, an injunction against enforcement of this part of the ordinance was issued.

3. Building codes were to be revised requiring sound-proofing of all new construction and remodeling. Various forms of incentive zoning were considered as aid.

4. Master plan and zoning regulations were to be re-examined in order to adjust land use in areas in the aircraft landing corridors.

*E.G. Allegheny Airlines v. Village of Cedarhurst, 238 F. 2d 812 (2d Cir. 1956), and American Airlines, Inc., v. Town of Hempstead, 398 F. 2d 369 (2d Cir. 1968).

5. The city attempted to get Los Angeles to extend its runways toward the ocean, thus permitting planes to be at a higher altitude while flying over Inglewood. This proposed measure is presently under consideration.

6. It also tried to get other revisions in the approach pattern -- e.g., prohibiting turns in the area.

7. In addition it urged that approaches to the airport be at a steeper angle.

8. It urged the airlines to develop quieter (and cleaner) engines.

9. It proposed that the City should intervene in all FAA, CAB, and California Public Utilities Commission proceedings affecting noise.

10. In addition, it helped form a national organization concerned with noise abatement -- NOISE (National Organization to Insure a Sound-controlled Environment).

Although not listed as part of its ten-point program, the city has made efforts to insure that its own equipment does not contribute to noise pollution and it is engaged in a major equipment sound-proofing program (e.g., on its one-man sanitation trucks). It also engaged in an extensive public relations campaign to focus attention on the problem.

In conclusion, Inglewood's noise pollution management plan attacked the problem on a wide front. Although some of the methods have been manifestly unsuccessful -- e.g., it has not won any court decisions -- its efforts have had some success. For instance, Los Angeles has developed strict noise controls for the airport, as well as altering approaches. Similarly, expertise developed by Inglewood has been utilized by EPA in its development of noise pollution regulations, (Inglewood's Environmental Standards Supervisor was on loan to EPA for six months under the provisions of the Intergovernmental Personnel Act) as well as by Congress in its drafting of noise pollution laws. In addition, some City officials have seen Inglewood's efforts as not only an attempt to improve the environment of its citizens, but also to demonstrate to them that their government cares about their health, well-being, and satisfaction, and to reduce their feelings of isolation and helplessness. The City's concern for aircraft noise has spread to other forms of pollution and other social issues.

ENVIRONMENTAL IMPACT STATEMENT (EIS)

In May 1972, Inglewood's City Council issued a set of environmental impact study guidelines. These guidelines incorporated into a formal requirement, a procedure that already had been used by the staff for almost two years. It also brought Inglewood into conformance with the California Environmental Quality Act of 1970 which required environmental studies for all projects subject to public action.* The following broad categories of factors were to be considered in order "to insure that all important aspects of an environmental evaluation" were examined:

1. land transformation and construction (ten specific items, e.g., erosion, floods)
2. land use (six specific items, e.g., open space, residential)
3. water resources (four specific items, e.g., quality, drainage)
4. air quality (five specific items, e.g., oxides, particulate matter)
5. service systems (six specific items, e.g., sewerage system, refuse disposal)
6. transportation systems (four specific items, e.g., automobile, safety)
7. noise and vibration (two specific items, i.e., on-site, off-site)
8. aesthetics (two specific items, i.e., scenery, structures)
9. community structure (six specific items, e.g., recreation, employment)

Each factor was to be evaluated separately for the project's construction phase and its operating phase. (See Addendum a.)

The process was described as follows: The preparing agency prepared the EIS and forwarded it to the Environmental Standards Division for review. Within fourteen days they were to forward it to the Planning Department for review. Within an additional seven days they were to forward it to the City Administrator, who was to decide within seven days whether the project should continue to its next phase (which would be the adoption of a design budget or a construction budget, depending on the nature of the project).

---

*In September 1972, the California Supreme Court interpreted the law to include private projects which involve city actions other than of a ministerial nature -- i.e., if the city grants approval on a project for which it could have denied approval, then the project is subject to an EIS.

Each reviewer of the EIS was to indicate either (1) general agreement (no objection or only minor changes proposed) or (2) a need for further information or (3) major changes necessary in the EIS or (4) that the action was unsatisfactory because "of the potential degradation of the environment [or] the safeguards to protect the environment are inadequate [or] the alternatives to proposed action need further analysis -- including the 'no action' alternative."

In September 1972, just prior to the State Supreme Court decision expanding the EIS requirement to include private projects, Inglewood issued a policy statement for using "total impact analysis" on public and private projects, thus broadening the scope of environmental concern in the decision making process.

The principle "building block" of total impact analysis was the quantification of environmental and social values. The underlying objective was to compare environmental, social, and economic costs with environmental, social, and economic benefits.

The prescribed method was as follows: For each environmental or social cost or benefit the magnitude of the effect was to be estimated -- e.g., the number of people affected, or the quantity of air pollution created, or decibels of sound produced. Then an importance factor was to be assigned; these were to consider the nature of the measurement unit of the magnitude (e.g., whether it was people, or parts-per-million of air pollution); it was also to vary with the type of land use affected -- e.g., residential areas were more important than open space. Professional judgment, questionnaires, or some form of group decision making were suggested as methods to determine the appropriate importance factors. Then these two quantities were to be multiplied resulting in "impact units" for each effect. Next, a dollar value was assigned to each impact unit, and when this was multiplied by the number of impact units an estimate of the net total social cost/benefit resulted. The comparison of environmental and social costs and benefits, and economic costs and benefits then enabled the decision maker to judge the desirability of a particular project.

The City used the principle , in varied forms, of total impact analysis on three of its own environmental impact studies: a site for a water treatment plant, the construction and operation of the plant, and a study of eight alternate freeway routes (the latter did not involve the same degree of precision in the quantification of environmental impacts nor any attempt to assess any economic values).

To date, the method has proven useful, but also has encountered some difficulties. The highest rated sites for the water treatment plant proved to be politically unacceptable, and a lower rated site was selected. The attached illustration (Addendum b) of the completed total impact analysis for the operation of the water treatment plant illustrates some of its problems. For example, the selection of the unit of measurement for the magnitude of the effect can have a major impact on the final result. Although the importance factor is far from arbitrary, it may be difficult to justify the values assigned. Similarly placing an economic value upon an impact unit is a difficult operation.

It should be noted, however, the presentation of the data elements rather than only a single sum enables the decision maker to attach his own values at each point.

When the California State Supreme Court ruled in September 1972, that an EIS was necessary for private projects as well as public projects, the immediate impact throughout the state was turmoil. The cities were unprepared and their initial response was to impose moratoria on zone changes, building permits, and other related municipal actions until reasonable guidelines were developed. The state subsequently issued its own guidelines for the implementation of the law.

But Inglewood had developed its own procedure at the staff level two years earlier, and this was officially adopted by the Council on November 14, 1972. Changes were made subsequently, in April 1973, that brought Inglewood into general conformance with state-issued guidelines. The process adopted in November 1972 instituted a requirement for an Environmental Clearance Statement for any zone changes, variances, and exceptions, special use and grading permits, filing of sub-division tract maps, and building permits. (See Addendum c for this form.) Automatic exceptions were granted for (a) detached single family dwellings, and permits for such related items as pools, room additions and fences, and (b) modifications entailing no expansion of use. Other cities granted exemptions for projects below a fixed number of units or value of the project. Subsequent State guidelines exempted similar projects but permitted increased capacity up to fifty percent in some situations.

In addition, Inglewood's procedure permitted the Environmental Review Committee to exempt any project from the requirement to file an Environmental Clearance Statement because the project did not have a significant effect on the environment.

The Environmental Review Committee (ERC) was composed of representatives of the Planning and Development Department, Public Works Department, Parks and Recreation Department, Fire Department, and Police Department. This review committee could (a) find the project had no significant impact and therefore approve it, (b) find the project would have an impact which could be alleviated by some action, and thus it could conditionally approve the project with the provision that the action was completed, or (c) find the project had significant affect on the environment and therefore require a full Environmental Impact Study.

The ERC was to consider a number of factors in making its decision, including:

(a) consistency with the General Plan and other land uses in the vicinity

(b) its effect on, and effect by, the natural environment (e.g., slope stability conditions, soil characteristics)

(c) its effect on cultural, historical, and recreational sites that cannot be replaced

(d) its effect on visual quality (e.g., consideration of landscaping, building setbacks, etc.)

(e) its effect on air, water, and noise pollution

(f) its effect on the need for public services

If an EIS were required, then the Community Environmental Commission (CEC) was to consider the EIS and any other information it deems appropriate (e.g., facts brought out at a public hearing) and determine the project's environmental impact and to either approve, conditionally approve, or deny the project. The decision of the CEC could have been appealed to the City Council (after payment of a $100 fee).

The EIS had to include in addition to a description of the project: (a) a description of the environmental setting, (b) the environmental impact, including specific listing of unavoidable impacts as well as irreversible changes, (c) mitigation measures to be taken to prevent the environmental damage, including evaluation of alternatives to aspects of the project or the project itself.

As noted earlier, the procedures established by Inglewood permitted its Environmental Review Committee to conditionally approve the initial Environmental Clearance Statement claiming no significant environmental impact. The conditions it established may have become part of a formal negotiation process, and apparently need not have been limited to purely environmental considerations. An example of the conditions established for approval of an Environmental Clearance Statement included prohibiting access to and from a particular street by erecting an eight-ten foot decorative masonry wall; the full set of conditions in one case can be found in Addendum d.

Prior to the revision of the guidelines in April 1973, eleven public and twenty-five private projects were subject to the EIS process. Of the eleven public projects, three of the EISs had to be changed as a result of the review process, and two of these projects were modified as a result; no projects were rejected. Of the twenty-five private projects subject to the EIS process, twenty Environmental Clearance Statements were accepted unconditionally, three were accepted conditionally, and two were subject to a full Environmental Impact Study; no projects were rejected.

In February 1973, the Resources Agency of California issued its guidelines for the implementation of the California Environmental Quality Act (CEQA) of 1970. In April 1973, the City Council of Inglewood amended its own requirements and procedures to conform to the state's guidelines.

The procedure as now established requires the Planning and Development Director (rather than the broader-based ERC) to make the initial decisions whether (a) the project or activity is not covered by the CEQA or Council ordinance, (b) exempt because the governmental action is deemed to be either an emergency, or of a ministerial nature, or (c) categorically exempt. Ministerial acts include filing of sub-division maps and issuing building permits -- both of which had been included in Inglewood's EIS process prior to these revisions. Projects that are categorically exempt are: (1) existing facilities which are merely being repaired, maintained, or altered slightly (additional space is limited to 2500 square feet or fifty percent, whichever is less); (2) replacement or reconstruction of existing structures and facilities, with substantially the same purpose and size; (3) new construction of small structures (e.g., a single family home -- provided no more than two are built -- or stores and offices designed for no more than twenty occupants); (4) minor alterations to land (e.g., grading on land with less than ten percent slope); (5) minor alterations in land use limitations -- i.e., minor lot line adjustments and set-back variances, not zoning changes which are not exempt; (6) accessory structures (such as small parking lots, on-premise signs, drainage projects under $10,000). The last four categories may not be exempt if the project is in a particularly sensitive environment, or if the cumulative impact of successive minor changes results in a significant impact. Other categorical exemptions include information collection, regulatory actions for protection of natural resources and for protection of the environment, inspections, loans, and surplus government property sales (except land).

If the project is not exempt, the Planning and Development Director must then decide whether the project may have possible significant environmental effects. If he declares that it will not have such impact, he issues a Negative Declaration, which is posted and becomes final after ten days if it has not been appealed. In Inglewood, appeals are heard by the Community Environment Commission (which is a joint group composed of the Planning and Zoning Board and the Constructions Appeals Board), after a fee of $50. has been paid; their decision may be appealed to the City Council within ten days on payment of a $25. fee.

The Director's decision that a project may have significant impact and therefore requires an Environmental Impact Report is also appealable under the conditions noted above.

The factors to be considered in making the decision whether a project may have a significant environmental impact requiring further study are basically the same as those the ERC was to use in making the same decision under Inglewood's earlier guidelines -- with the exception that assessing the project's effect on the need for public services is not specifically mentioned and the new language only mentions "posing a burden on the existing street system" in its place. Reference to impacts on irreplaceable cultural, historical, and recreational sites was also dropped at this decision point, but it and the impact of the project upon public services must be included in the full Environmental Impact Report, if one is required. It should also be noted that the guidelines specifically stated that the factors to be considered were not to be limited to those listed. And, also that both primary and secondary consequences of an action are to be considered (e.g., the consequences upon the environment of any resulting population growth).

If an EIR is required, the draft (which may be made by the developer) is circulated to interested departments and is made available to the public upon request. Comments are to be made within thirty days, and a final EIR is to be prepared within an additional thirty days. The City then decides whether the project will or will not have a significant effect on the environment, and whether or not to approve the project.

An Environmental Impact Report must include: (a) as the environmental impact of the proposed action, including primary and secondary impacts as well as short-term and long-term ones, at each stage -- acquisition, construction, operation -- of the project; (b) any adverse environmental effects which cannot be avoided if the project is implemented; (c) mitigation measures proposed to minimize the impact; (d) alternatives to the proposed action (including alternative mitigation measures, and the option of having no project at all), with the reasons for rejecting them; (e) relationship between the short-term use of the environment and the perspective that each generation is the trustee of the environment for future generations; (f) any irreversible environmental changes if the project were implemented; (g) the growth inducing impacts of the proposed action; and (h) the boundaries of the affected area, which actually may be quite far from the proposed site.

There has been some dissatisfaction with the EIS process in Inglewood as elsewhere in California. The EIS process comes into play only when someone wants to do something; the decline of the environment through inaction (e.g., deterioration of buildings) is not examined. The EIS process requires a case by case consideration rather than the broader approach found in general planning considerations. There have also been complaints the privately produced Environmental Clearance Statements and even full-fledged EIS reports are poorly done and even take on the appearance of mass produced interchangeable studies, rather than real examinations of the impact of the particular project. The revised guidelines in Inglewood have provisions for the city to prepare the reports and to pass on the costs of preparations and review unto the applicant (this is in addition to a basic fee of $50. and any fees for appeals).

The EIS process has also been criticized as costly and dilatory. And it is not clear that Inglewood and other cities have the expertise needed to evaluate the environmental impact of a project -- especially if secondary and growth-inducing impacts must be considered.

But the EIS process has introduced environmental considerations into the decision making process, and has contributed to its rationality and openness.

PROPERTY MAINTENANCE PROGRAM

One consequence of an increased demand for environmental action may be that some programs which existed before (or independently of) this demand will be relabeled as environmental management programs. Building code requirements for landscaping, or minimum number of parking spaces will be cited as environment programs. Although Inglewood's Property Maintenance Program could be considered a part of some other governmental function, its contribution to stabilizing the urban environment calls for its discussion in this report. More importantly, preventative programs should be considered by cities as part of their environmental management strategy.

As part of Inglewood's federally funded Community Review Program, a recommendation for a Property Maintenance Program (PMP) was made and adopted. The PMP is an attempt at preventative medicine. As one Inglewood official noted, "The Environmental Impact Statement process works when someone wants to do something. But there is a need for programs to prevent later problems whose solutions will require the EIS process." The PMP is seen as a process to slow down the need for public urban redevelopment projects. It is also hoped by Inglewood officials that it will slow down the transition from single-family homes to apartments, and perhaps aid in the stabilization of the current racial balance.

The PMP involves inspecting building structures for their external appearances and requiring them to repair deteriorating conditions. (See Addendum d for requirements.) The program differs from Inglewood's program for building code enforcement in several ways: (1) it focuses upon external appearance rather than internal conditions such as proper electrical wiring, (2) it utilizes the skills found in Planning Departments with its greater neighborhood and people orientation, rather than the more traditional building inspector who are more concerned with safety and building code conformance, (3) it utilizes a scheduled inspection system of structures in designated neighborhoods, rather than operating on a complaint basis. In Inglewood, the program is administered through the Environmental Standards Division of the Planning and Development Department. (See Addendum e for the citation form.)

The program is designed to have six phases each lasting two years, resulting in most structures being systematically inspected and reinspected for compliance by the end of the program. The first phase involves inspection of 2800 structures in three areas and covers approximately eighteen percent of the units scheduled to be inspected. The cost of the program was estimated at $60-80,000 per year.

The results of the program can be easily evaluated both by a qualitative evaluation of the improvements made as well as by a quantitative measure of the number of buildings inspected and the number of violations corrected. For the first nine months of the program 712 buildings were inspected compared to 851 buildings in the previous 5 1/4 years which relied on building inspections originating from a complaint.

Based on Inglewood's experience with the program, and an evaluation by the administration, several recommendations can be made to any city thinking of such a preventative program as part of its environmental management strategy. The program should be based upon an analysis of the total community in terms of its social, economic, and physical characteristics and needs. It should proceed in phases, with the first phase deliberately selected so that it does not include the most blighted areas, but rather includes those most amenable to the cosmetic changes envisioned by this program. Nor should the initial areas concentrate on areas predominated by one race, economic level, or age group. It is especially important that the initial burden not rest with the black, the poor, or the elderly, even if those areas might benefit most from the program. The program requires a strong public relations campaign to ensure enforcement and success. Clearly the councilmen ought to be consulted on the scheduling of the inspection areas. Realistically, consideration must be given to election schedules, and where the council is selected on a district basis (rather than at-large) consideration must be given to distributing the political burden of this program.

But it should be noted that the Inglewood City Council has given the program enthusiastic support. In part, this may be due to the transition problems Inglewood is encountering. The Council is more attuned to the needs and problems of its single-family residents, because these are more likely to be concerned with local government in Inglewood. The apartment dwellers have less identification with the city, in part because they are newer residents, and in part because information about the community is difficult to acquire because Inglewood is merely one of seventy-seven cities in Los Angeles County and is without strong local coverage (i.e., all of the TV channels -- a major source of news -- concentrate upon Los Angeles rather than the smaller cities). Since they do not pay property taxes directly, nor do they receive as many direct service (e.g., they are less likely to be aware of trash collection problems), and since many of them work outside of Inglewood -- their concern with Inglewood government is far less than the older Inglewood home-owner who is more directly tied to the city's services and tax burden. These councilmen were eager to support a program that would maintain older neighborhoods, and contribute to both stabilizing its racial composition as well as its home-owner composition.

Based on Inglewood's experience, a city contemplating this program should be prepared for negative feedback on other faults of the government as well as on the program. Some of those adversely affected by the program may suggest that the city solve Problem X or Problem Y rather than spend its resources on this program. The availability of financial assistance in terms of low cost loans or of alternate low-cost housing may play an important role in the success of this program, as in the case of other code enforcement programs.

ORGANIZATION

The basic organizational question faced by Inglewood was where to place the responsibilities for protecting the environment. The initial organization was an Environmental Standards Division (ESD) which was formally placed within the Building Department, but whose head reported directly to the City Manager -- emphasizing the high priority to be given this program. A subsequent reorganization placed the ESD (and the Building Department) within the Planning and Development Department.

Inglewood governmental officials considered the creation of a separate environmental department or EPA but rejected this alternative in favor of the Planning and Development Department handling the environmental function. Several reasons were cited.

1. The City Manager wanted environmental considerations to become institutionalized as part of each department head's decision making criteria, and he felt that a separate department encouraged the idea that the environment was someone else's responsibility. He felt that an administrative style of cooperation was more productive than one involving an adversary approach.

2. Concern for the environment should come early in the decision making process, and placement within the Planning and Development Department facilitates this.

3. Planning is a vital function, which cannot be separated from the environment, and hence the Planning and Development Department should be responsible for environmental protection. A separate Environment Department would involve considerable overlap of skills.

4. In addition, a new department may face additional barriers in its relations with other more established departments.

5. It was the feeling of the City Manager that the best source for environmental expertise for his administration was to train current staff members rather than hire environmentalists; current staff, and the Planning and Development Department, already had an appreciation for the need to

compromise between economic realities and environmental necessities.

6. Inglewood's size was small enough so that the responsibility of protecting the environment would not overburden the Planning and Development Department.

An additional organizational aspect faced by Inglewood was the role of citizen participation in the area of environmental protection. Here Inglewood's approach was much more traditional than some other innovative and environmentally aggressive cities.

In August 1971, political considerations, a desire to streamline the appeals process, and some environmental considerations led to the dissolution of their Planning Commission, Board of Zoning Appeals, Board of Building Appeals, and Board of Fire Appeals. Their functions were reconstituted into a five member Planning and Zoning Board and a five member Construction Appeals Board. The two boards combined form the Community Environment Commission (CEC) which is mandated to meet quarterly, or on the call of the chairman. The position of CEC Chairman rotates quarterly between the two board chairmen.

The board members are appointed in a traditional manner -- each councilman and the Mayor names one member of each board. No particular emphasis is placed upon their expertise or concern for the environment, but city officials expect the members of the CEC to grow into the role of environmental experts. Their role as a major mechanism for citizen participation in the environmental management process has been clarified by the city's revised EIS guidelines which makes them part of the appeals process.

In summary, the organizational machinery adopted in Inglewood suits its own political and administrative style. Any city contemplating organizational alternatives for its own environmental management strategy must consider these elements too, and not merely transplant what has proven successful elsewhere -- organizational transplants (like organ transplants) require some minimal matching of supportive systems and behavior.

CONCLUSION

Inglewood's environmental management program includes a wide range of activities, only some of which were examined in this report. Inglewood's program began with aircraft noise pollution but soon encompassed other sources of noise, and then other aspects of the environment were added. Their development of total impact analyses and their use of the environmental impact statement process (which predated the state's requirement), involves a still broader view of the environment. Their environmental management strategy ranges from preventative aspects (such as the inclusion of environmental factors into governmental planning and decision making, and programs such as Property Maintenance) to programs of active enforcement (such as the civil and criminal suits they filed to reduce noise pollution).

The strategy evolved as a result of a number of factors. Public opinion was supportive -- some might even say demanding -- of action to rid Inglewood of its aircraft noise problem; and public support continued as the program evolved. The city's governmental decision makers played an active role in the development of the strategy to its present point; where they lacked expertise they moved to acquire it through training, recruitment, or the use of consultants. The strategy also developed because once the city played an active role and earned a reputation as an innovator, it strived to maintain that image.

Their program to combat noise pollution involved a wide range of activities. Although some of them have not been manifestly successful, progress has been made which can be attributed to the general, continuing campaign waged by Inglewood. The use of civil suits has been a slow, costly, and so far unsuccessful strategy; their criminal suit against a pilot who violated their noise ordinance while landing at Los Angeles International Airport also proved unsuccessful.

The city is proud of its noise ordinance and it can be assumed to be successful despite the general weaknesses of such ordinances.* Determination to enforce clearly written standards is a major factor in making this environmental management strategy successful. The other elements of their ten point program can help make Inglewood a quieter city, when the measures are finally implemented -- either by the city, or by the other private and public organizations that have the authority to act.

Inglewood's Environmental Impact Statement process has proven successful -- not so much because it has killed environmentally damaging projects, but because it has introduced environmental considerations into the decision making process of both private developers as well as governmental decision makers. Its most serious problem may be the inability to accurately assess the environmental impact of a project, given the current state of available knowledge. Other criticisms of the process -- e.g., its cost, or the delay involved -- are minor, when compared to the benefits that can be gained if a project that is potentially harmful to the environment is blocked. But the technique requires dedicated administrators and vigilant citizen participation; the process can quite easily become a pro forma exercise without these.

Preventative programs, such as Inglewood's Property Maintenance Program, have a definite role in an environmental management strategy. It is too early, however, to tell whether Inglewood's program will be successful in improving the aesthetic environment and halting the need for redevelopment projects. Since any code enforcement program requires financial assistance to be successful, the program may face difficulties ahead. (See Addendum e for Notice of Property Maintenance Violations.)

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*See Stuart F. Lewin, Alan H. Gordon, and Channing J. Hartelius, Law and the Municipal Ecology (Washington, D.C.: National Institute of Municipal Law Officers, 1970).

The observation has been made several times that successful environmental management requires programs and enforcement. There is no single organizational arrangement that is best for all cities. Almost any arrangement can be made to be successful in protecting the environment if that goal is shared by the citizenry, and dedicated policy makers and administrators.

ADDENDUM a

ENVIRONMENTAL IMPACT STUDY GUIDELINES

COVER SHEET

A. PREPARING AGENCY:	DATE:	STUDY REVIEW	
B. PROJECT NAME:		E. ENVIRONMENTAL STANDARDS DIV.	DATE:
C. PROJECT LOCATION:		F. PLANNING AND DEVELOPMENT DEPARTMENT:	DATE:
D. PROJECT NUMBER:		G. ADMINISTRATIVE OFFICER:	DATE:

The Environmental Impact Statement shall contain at least the following information:

I. DESCRIPTION OF THE PROJECT

- a. Purpose, function, cost
- b. How will it be accomplished
  - 1. Equipment to be used
  - 2. Schedule
- c. Who will be affected

II. ENVIRONMENTAL IMPACT DURING CONSTRUCTION

- a. Short term environmental benefits
- b. Short term environmental degradation

III. ENVIRONMENTAL IMPACT AFTER CONSTRUCTION

- a. Long term environmental benefits
- b. Long term environmental degradation

IV. ALTERNATIVES (include cost impact of alternatives)

- a. Alternatives to project as a whole
- b. Alternatives to methods of accomplishment

V. TRANSCRIPT OF PUBLIC HEARING (if held)

VI. REVIEW OF PUBLIC HEARING AND DISPOSITION

VII. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

ENVIRONMENTAL IMPACT STUDY GUIDELINES

CHECK LIST

PURPOSE: To insure that all important aspects of an environmental evaluation are considered. It is an aid to insure necessary completeness.

PROCEDURE: Make a check mark opposite each item to indicate whether the proposed project will have an adverse effect, no effect, or a beneficial effect on the item in question.

	CONSTRUCTION PHASE			OPERATING PHASE		
	Adverse Effect	No Effect	Beneficial Effect	Adverse Effect	No Effect	Beneficial Effect
A. Land Transformation and Construction						
a. Compaction and Settling						
b. Erosion						
c. Ground Cover						
d. Deposition (Sedimentation, Precipitation)						
e. Stability (Slides)						
f. Stress-Strain (Earthquake)						
g. Floods						
h. Waste Control						
i. Drilling and Blasting						
j. Operational Failure						
B. Land Use						
a. Open Space						
b. Recreational						
c. Agricultural						
d. Residential						
e. Commercial						
f. Industrial						
C. Water Resources						
a. Quality						
b. Irrigation						
c. Drainage						
d. Ground Water						
D. Air Quality						
a. Oxides (Sulfur, Carbon, Nitrogen)						
b. Particulate Matter						
c. Chemicals						
d. Odors						
e. Gases						

		CONSTRUCTION PHASE			OPERATING PHASE		
		Adverse Effect	No Effect	Beneficial Effect	Adverse Effect	No Effect	Beneficial Effect
E.	Service System						
	a. Schools						
	b. Police						
	c. Fire Protection						
	d. Water & Power Systems						
	e. Severage Systems						
	f. Refuse Disposal						
F.	Biological Conditions						
	a. Wildlife						
	b. Trees, Shrubs						
	c. Grass						
G.	Transportation Systems						
	a. Automobile						
	b. Trucking						
	c. Safety						
	d. Movement						
H.	Noise and Vibration						
	a. On-Site						
	b. Off-Site						
I	Aesthetics						
	a. Scenery						
	b. Structures						
J.	Community Structure						
	a. Relocation						
	b. Mobility						
	c. Services						
	d. Recreation						
	e. Employment						
	f. Housing Quality						
K.	Other (List as Appropriate)						

ADDENDUM b.

ADVERSE IMPACT UNIT DETERMINATION

An attempt is made to quantify adverse environmental impact of a project. Two factors determine the value or quantity of an adverse impact: the importance factor and the magnitude of adverse impact. Magnitude multiplied by importance factor yields the "adverse impact unit." This unit is composed of a factual judgment (magnitude) and a subjective judgment (importance). The importance factor expresses a preferential attitude of the author and magnitude determination guided by documented facts.

Magnitude of Adverse Impact:
1 Negligible
2 Small
3 Moderate
4 Considerable
5 Extensive

Importance Factors:
1 Slightly important (public inconvenienced; short term)
2 Important (controversial; hazardous; long term)
3 Very important (health and safety affected)

ADVERSE ENVIRONMENTAL IMPACT UNIT MATRIX FOR PROPOSED FREEWAY ALTERNATIVES

Freeway Alternative	ADVERSE IMPACTS										Total Adverse Impact Units
		Noise				Air					
	Socioeconomic	Church	School	Hospital	Park	Park	School	Hospital	Traffic	Seismic	
N-N1-N	5 2	3 3	-- --	4 3	3 3	4 3	--- --	5 3	4 2	3 3	
	10	9	--	12	9	12	--	15	8	9	84
N	5 2	3 3	4 3	4 3	3 3	4 3	3 3	5 3	4 2	3 3	
	10	9	12	12	9	12	9	15	8	9	105
N-N3-C	4 2	6 3	4 3	-- --	-- --	-- --	4 3	-- --	3 2	2 3	
	8	18	12	--	--	--	12	--	6	6	62
N-N2	5 2	3 3	4 3	-- --	3 3	2 3	4 3	-- --	4 2	3 3	
	10	9	12	--	9	6	12	--	8	9	75
C	5 2	5 3	5 3	-- --	3 3	3 3	5 3	-- --	2 2	2 3	
	10	15	15	--	9	9	15	--	4	6	83
C-C1-N	5 2	3 3	5 3	-- --	3 3	4 3	5 3	-- --	3 2	2 3	
	10	9	15	--	9	12	15	--	6	6	83
S	2 2	2 3	4 3	-- --	3 3	4 3	4 3	-- --	1 2	1 3	
	4	6	12	--	9	12	12	--	2	3	60

LEGEND:	
5	Magnitude
3	Importance factor
15	Impact unit

IMPACT RATING SHEET

(Completed Sample: Water Treatment Plant)

Effect	Magnitude	Importance Factor	Impact Units
Positive Social Effects			
1. Improved water quality	395 million people-days (present value)	0.1	39.5 million
2.			
3.			
Total			39.5 million
Positive Environmental Effects			
1.			
2.			
3.			
Total			
Negative Social Effects			
1. Relocation of 1 family	2.5 people (equivalent)	16.7	42
2. Relocation of 2 businesses	63 people (equivalent)	16.7	1,052
3.			
Total			1,094
Negative Environmental Effects			
1. Noise & dust (plant construction)	15,000 people days (equivalent)	1.2 (park affected)	18,000
2. Noise & dust (pipeline construction)	2,000 people days	1.3 (residences affected)	2,600
3. Air pollution from electricity generation	20,000 people days (present value)	1.2	24,000
Total			44,600

Economic Value of one impact unit: $2.50 per person-day (equivalent)

Economic benefits	$ -0-	
Social benefits	$ 98,750,000	
Environmental benfits	$ -0-	
Total Benefits		$ 98,750,000
Economic costs	$ 8,000,000	
Social costs	$ 2,735	"external" costs
Environmental costs	$ 111,500	
Total Costs		$ 8,114,235

ADDENDUM c.

ENVIRONMENTAL CLEARANCE STATEMENT

1. APPLICANT:	2. OWNER:
Name____________________	Name____________________
Address__________________	Address__________________
________________________	________________________
Telephone________________	Telephone________________

3. PROJECT LOCATION:

Address__________________	Legal Description________
________________________	________________________
________________________	________________________

4. ZONE:____

5. PROJECT TYPE (i.e., residential, commercial, industrial or other) Specify:____________________________

____

6. PROJECT VALUE (excluding land):______________________________

7. PROJECT CHARACTERISTICS:

    a. Square footage of site ________________________

    b. Square footage of buildings ((including garages) ________________________

    c. Land coverage (as % of "7a") ________________________

    d. Landscaped area (as % of "7a")________________________

    e. Number of stories ________________________

    f. Building height ________________________

    g. Number of parking stalls ________________________

    h. Number of dwelling units (res. only)__________________

    i. Recreation area (as % of "7a")________________________

		YES	NO
8.	Does your project comply with all pertinent rules and regulations of the Los Angeles APCD?	___	___
9.	Will your project require that heavy trucks or equipment use streets other than designated truck routes (after construction completed?)	___	___
10.	Will your proposed project require any pickups or deliveries between the hours of 10 PM and 7 AM?	___	___
11.	Does your project include any machinery, loudspeaker, or other equipment that will be audible beyond your property line?	___	___
12.	Does your project include any equipment that may generate dust, fumes, odors, smoke, or steam noticeable beyond your property line?	___	___
13.	Does your project consume any existing open space in Inglewood?	___	___
14.	Will any construction acgivity take place between the hours of 10 PM and 7 AM?	___	___
15.	Will the project result in any significant increase in traffic or parking on any city streets?	___	___
16.	Are there any other significant short-term environmental impacts of this project?	___	___
17.	Are there any other significant long-term environmental impacts of this project?	___	___

I certify that the above facts are true and correct and recognize that development in Inglewood must comply with all City of Inglewood ordinances and codes as well as all rules and regulations of the Los Angeles Air Pollution Control District.

______________________________ (Signature of Applicant)

______________________________ (Date)

_____ I concur with the above facts and find that this project will not have a significant effect on the environment provided the conditions listed below are met.

_____ I concur with the above facts and find that this project may have a significant effect on the environment. An Environmental Impact Statement is required.

_____ I do not concur with the above facts for the reasons stated below. An Environmental Impact Study is required.

Chairman, Environmental Review Committee (Date)

ADDENDUM d.

CONDITIONS REQUIRED BY THE CITY PLANNING COMMISSION AND THE ENVIRONMENTAL REVIEW COMMITTEE FOR EXPANSION OF AUTO SALES LOT

1. That the applicant construct a decorative masonry wall 8 to 10 feet in height along the entire Maple Street frontage, set back a distance of 5 feet from the property line with a setback at the north end and south end compatible with the existing residential setback. The design of the wall, the height of the wall and the length and design of the transitions at the north and south ends shall be subject to the approval of the Planning and Development Director and the Police Department.

2. That applicant provide a wall not less than 6 feet in height between the property northward and the property southward. The material and height of the wall shall be approved by the Planning and Development Director.

3. That a 5 foot landscaped setback from the west property line shall be provided and supplied with an appropriate irrigation system. Minimum landscaping acceptable shall include ground cover and 15 gallon grees at 50 foot intervals. Landscape plans indicating the type and placement of plant material and the design of the irrigation system are subject to approval by the Planning and Development Director.

4. That the Maple Street parkway shall be landscaped with trees and appropriate ground cover and maintained by the property owner. Landscape plans indicating the type of plant material and the design of the irrigation system are subject to approval by the Planning and Development Director.

5. That grading, paving and marking of the lot be according to requirements of the Inglewood Municipal Code.

6. The lighting plan for the property including the height of the light standards shall be subject to approval by the Planning and Development Director. There shall be no direct illumination of adjacent residential areas.

7. That no access or egress shall be permitted to the property from Maple Street.

8. That all curb-cuts on Maple Street are to be closed and matched with existing curb, gutter and sidewalk. Construction shall be to the standards required by the City Engineer.

9. That no advertising signs shall be installed on the Maple Street frontage.

10. That the Traffic Engineer review the traffic patterns in the area and install all appropriate control devices.

11. That the noise levels resulting from any activity on the site shall not exceed 50 dBA at the nearest property line of any residential property.

12. That the applicant shall at his expense construct a storm drain on 98th Street from Maple to La Brea. The storm drain shall be approved by the City Engineer.

13. That the applicant provide access gates for emergency vehicles at the end of each alley abutting the property. The design and construction of the gates shall be approved by the Fire Chief.

ADDENDUM e.
CITY OF INGLEWOOD CALIFORNIA

NOTICE OF PROPERTY MAINTENANCE VIOLATIONS

Address____Date____________________

Pursuant to the Property Maintenance ordinance, an inspection was made of your property and the following deficiencies as checked off were found to exist:

( ) 1. Abandoned, boarded-up or partially destroyed building, Sec. 9601(a)(o)(r-ix)

( ) 2. Unpainted buildings causing dry rot and termite infestation. Sec. 9601(b)(o)

( ) 3. Broken window constituting a hazard. Sec. 9601(c)(o)

( ) 4. Overgrown vegetation. Sec. 9601(d)(o)

( ) 5. Storage of vehicles in front yard area. Sec. 9601(f)(o)

( ) 6. Dead trees, weeds and debris. Sec. 9601(e)

( ) 7. Abandoned vehicles. Sec. 9601(g)(o-ii)

( ) 8. Discarded furniture. Sec. 9601(i)(o-ii)

( ) 9. Garbage cans stored so visible from the street. Sec. 9601(k)(o)

( ) 10. Structurally dilapidated, in need of repairs. Sec. 9601(m)(o)

( ) 11. Violates fire resistive wall requirements. Sec. 9601(r-xv)

( ) 12. Other____

Remarks____

These conditions constitute a Public Nuisance. Corrective measures must be commenced within ________days and completed within ________days. Otherwise the matter will be turned over to the City Attorney for either misdemeanor or civil action.

Questions concerning the above should be addressed to the Building Division at 674-7111, Ext. 274 between 8:00 a.m. to 5:00 p.m.

____
Building Inspector
Building Division
Planning and Development Department
Inglewood, California

OFFICE USE ONLY

Property Owner____________________
Address____________________

Contacts____________________

APPENDIX 4

REPORT ON THE FIELD TRIP TO MIAMISBURG, OHIO

Introduction

Miamisburg is a small city (14,935 population) lying on the banks of the Great Miami River on the southern edge of the Dayton metropolitan area. Rapid growth is transforming Miamisburg from a small independent town to a larger suburban community. Growth trends for the entire metropolitan area indicate continued rapid expansion for the area south of Dayton, as completion of Interstate 75 makes commuting into Dayton for work much more convenient.

Since 1968, the primary orientation of the City of Miamisburg has been toward preparing for the anticipated growth. A pro-annexation policy has resulted in adding 233 acres for a total of 7.5 square miles, and the city is straining to provide the essential capital improvements. Anticipation of growth relates to a growing concern over environmental quality on the part of the citizens, their local elected officials and the municipal staff. The press of immediate problems has required that long-term planning efforts be carried out at the same time that new programs are being implemented.

In the last few years, the City of Miamisburg initiated the following environmental programs:

*Comprehensive Planning. In November 1969 the Comprehensive Development Plan was adopted as a standard for future planning.

*Mayor's Beautification Committee. A 15-member committee whose primary mission is to develop and recommend to the city council programs designed to improve the city's appearance and physical environment was established.

*Solid Waste. Plastic trash can liner program was initiated where bags could be obtained from city building or boy scouts at $3.00 for fifty bags.

In July, 1970 the city put into effect a more efficient system of collection routes in conjunction with a new refuse storage and collection ordinance. Recently, the city switched to specially designed one-man vehicles for refuse collection.

In early 1970 they began using South Montgomery County Reduction plant (annual cost $42,000) to dispose of trash rather than landfill method ($7.90/ton).

*Water. In February, 1970 a 25 year Wastewater Treatment Master Plan was adopted.

In May, 1970 the city authorized a $2,000 voluntary contribution to the Miami Conservancy District for a demonstration and study of oxygen aerators for the Great Miami River.

In September, 1969 new chlorination facilities were added to the city wastewater treatment plant, providing compliance with state and federal water standards (2.2 mgpd capacity).

A one million gallon water tank was built to insure adequate emergency water storage.

A section of trunk sewer was completed, thus eliminating two lift stations which were sources of pollution.

*Open Space. A Master Park Acquisition Plan was adopted.

In May, 1971 the Council established a "park fee" to be paid on each building permit issued for the construction of a residential structure in the City (see Addendum B).

An abandoned sewage treatment plant was converted into a park.

While it is important to do everything possible within a single community to alleviate environmental problems, many transcend local political boundaries and many require solutions that exceed the capacity of any single jurisdictions. Briefly, the primary environmental problems facing the City of Miamisburg and the entire metropolitan areas as identified chiefly by the "State of the Environment" report issued by the Miami Valley Regional Planning Commission, are:

Water Pollution -- The major sources of pollution for the Great Miami River are industrial and municipal discharges (treated and untreated). In the past the BOD level has failed to meet established standards. However, water quality has consistently improved since 1960. Another pollution threat is that of toxic waste spills. One paper company was fined $60,000 for damages resulting from such a spill.

Air Pollution -- The most serious air pollution problem is dustfall and suspended particulates, the latter emanating from industries and steam-electric plants. At major street intersections, the level of carbon monoxide exceeds state standards. Other standards may be violated near major emission sources. The trend over the past few years has been a dramatic decrease in most types of air pollution.

Solid Waste -- Solid waste disposal is particularly important because of its potential for contaminating the ground water, the source of the area's drinking water. The problem is finding a means of disposal with minimal environmental impact.

Unregulated Growth -- Urban sprawl threatens to become more serious resulting in the risk of losing valuable agricultural land and natural areas.

When seeking solutions to problems such as these that are common to this regional area, it is necessary to consider what is called the Miami Valley Region. The Region covers 2,300 square miles and nearly one million people. There are five counties in the area recognized as the Miami Valley; 16 cities; 54 villages; 69 townships; 65 school districts, and 48 other special purpose districts -- a total of 252 separate jurisdictions.

The remainder of this report then focuses on some of the key environmental programs in the Miami Valley and the various regional arrangements utilized to implement them. These include: (1) the Miami Conservancy District, which was created in 1914 in response to a disastrous flood and which has extended its functions to include water quality; (2) the Montgomery County Combined General Health District, a single agency covering five counties for combatting air pollution; (3) the Montgomery County Sanitation Department, which provides county-wide incineration for refuse; (4) the Monsanto Research Corporation Mound Laboratory, which in cooperation with the Atomic Energy Commission, attempts to neutralize its own impact on the environment; and, (5) the Miami Valley Regional Planning Commission, which serves to coordinate the environmental efforts of a five-county area. When there is a proliferation of governmental jurisdictions in an area, as is often the case in many metropolitan areas, the effectiveness of individual units to meet environmental problems is limited. Service levels and tax burdens vary, economies of scale are unrealized, and often the jurisdiction is not large enough to encompass the source of pollution. In the Miami Valley there has been increasing emphasis on regional approaches to solving environmental problems.

THE MIAMI CONSERVANCY DISTRICT

In the spring of 1913 from 9 to 11 inches of rain fell on the Miami Valley over a five day period. The resulting destruction of the 1913 flood to the communities built in the flood plains totaled over 300 people dead and property damage of $100 million plus.

The first order of business, once some seeming normalcy was established was to work together to form a protective plan which would end flood threats. Over 23,000 citizens of the valley raised in excess of $2 million in cash for flood control.

There were two major institutional changes resulting from the disaster. First, citizens formed a council-manager government in the City of Dayton.

Second, in response to public demand, a special session of the Ohio legislature was called in 1914 which enacted the Ohio Conservancy Act, the basis for creating conservancy districts throughout Ohio.

Founded in 1915 under the Conservancy Act to combat area flooding, the Miami Conservancy District was created as a political subdivision of the State of Ohio. It had the power to levy assessments, borrow money, condemn land to provide flood protection, and plan, construct and maintain structures. The Conservancy District does not have the power to enforce regulations or to prosecute violators; State and local enforcement agencies perform these functions. The District's area of concern is defined not by county, city or township lines, but by the geographical watershed of the streams and rivers involved.

Responsibility for the District is in the hands of the Conservancy Court, which is made up of nine common pleas judges; one each from the Ohio counties included: Butler, Clarke, Greene, Hamilton, Miami, Montgomery, Preble, Shelby, and Warren. A three-man board of directors is appointed by the Court to supervise the development and execution of the District's activities and responsibilities. These men appoint an operating staff for day to day management.

Originally the Conservancy District had responsibility only for flood control. The flood control plan they developed provides protection from a storm 40 percent greater than the 1913 storm. Five large earthen dams on the main stem of the Great Miami and four of its tributaries (Laramie, Stillwater, Twin Creek, Mad), together with levees and channel improvement in the major cities of Miami, Montgomery, and Butler counties, provide the residential and commercial communities with as effective a flood protection system as may be found anywhere in the U. S.

The original Miami system was completed in 1922 at a cost of $38 million. Areas which were rural in 1915 but are urban today have since asked to participate in the district and have been extended protection. Since World War II, $12 million in flood control has been added.

The Conservancy District flood protection goal yet to be achieved is the purchase of all the land in the flood plains. In addition to providing added protection from floods, this would provide a related recreational benefit. Even now, since the dams are "dry" dams (only storing water during floods), the wooded areas on the upstream side of the dams are leased to the Montgomery County Park District for recreational use.

The Miami Conservancy District broadened its scope when it became directly involved in water quality after passage of the national water quality act in 1965. A committee was formed under the sponsorship of the Dayton Chamber of Commerce representing all permit holders, including industries, counties and municipalities, as an act of resistance to the standards proposed for the Miami River. The District served in a technical advisory capacity to this committee.

In 1967 the Conservancy District was charged by the State of Ohio with responsibility for planning, developing and guiding an effective program for improving water quality in the District's watershed. The work to date has been financed mainly by six counties and 53 industries and municipalities holding Ohio permits to discharge wastes into the Great Miami River and its tributaries. In addition, substantial Federal funds were provided in the form of a grant from the Federal Water Quality Administration. A three year study resulted in the following program recommendations: (1) water quality management; (2) stream appearance; (3) in-stream aeration; (4) low flow augmentation; (5) regional treatment of non-aqueous wastes; and, (6) regional wastewater treatment.

1. The Water Quality Management Program has been functioning since 1967. It involves water measurement, testing and analysis. It provides the data on which other water-related judgments and recommendations have been made. The District has set up 36 sampling stations along the Miami River and its tributaries. Six of these are monitored continuously and the remainder are sampled only periodically. In addition samples are taken at 60 outfalls on the river at random intervals throughout the year (more samples are taken by the U. S. Geological Survey and the State Natural Resources Department).

   Stream survey data collected by the District as part of the sampling network is analyzed and computerized to develop a mathematical description or "model" of the river. Data in the model includes temperature, dissolved oxygen, stream flow, environmental conditions, and the like. By altering one of the variables, the model will describe changes in the total river. Thus, the model is valued as a planning tool.

2. The stream appearance program is being pursued in several ways, including contacting those landowners and operators permitting or contributing to undesirable stream appearance. The regulatory and enforcement powers of the State (Division of Wildlife) or local law enforcement agencies (as in the case of zoning) are enlisted when necessary. In the summer teenagers are employed to clean up along the river.

3. The first mechanical aerator was put in operation on the river in the summer of 1970. Since then two more have been added. In essence, the aerators work like a giant eggbeater, stirring up the water and exposing it to the air. Transfer of oxygen to the water not only helps sustain aquatic populations, but also aids the natural decomposition process. Experimentation with other methods of aeration, such as air injection and pure oxygen transfer, is also planned.

4. Studies show that adding water to the Great Miami River at Dayton during the dry season to maintain a rate of flow of at

least 600 cubic feet per second would help maintain required water quality standards. Boosting the flow of the river would be needed only during that part of the year when the stream cannot flow at this rate unassisted. All other things being equal, the greater the volume and velocity of the flow, the more effective the stream's ability to assimilate wastes and the faster high-temperature effluents are cooled. The Ohio Water Pollution Control Board has required that low flow augmentation be included in any water quality plan proposed for the Great Miami River Basin.

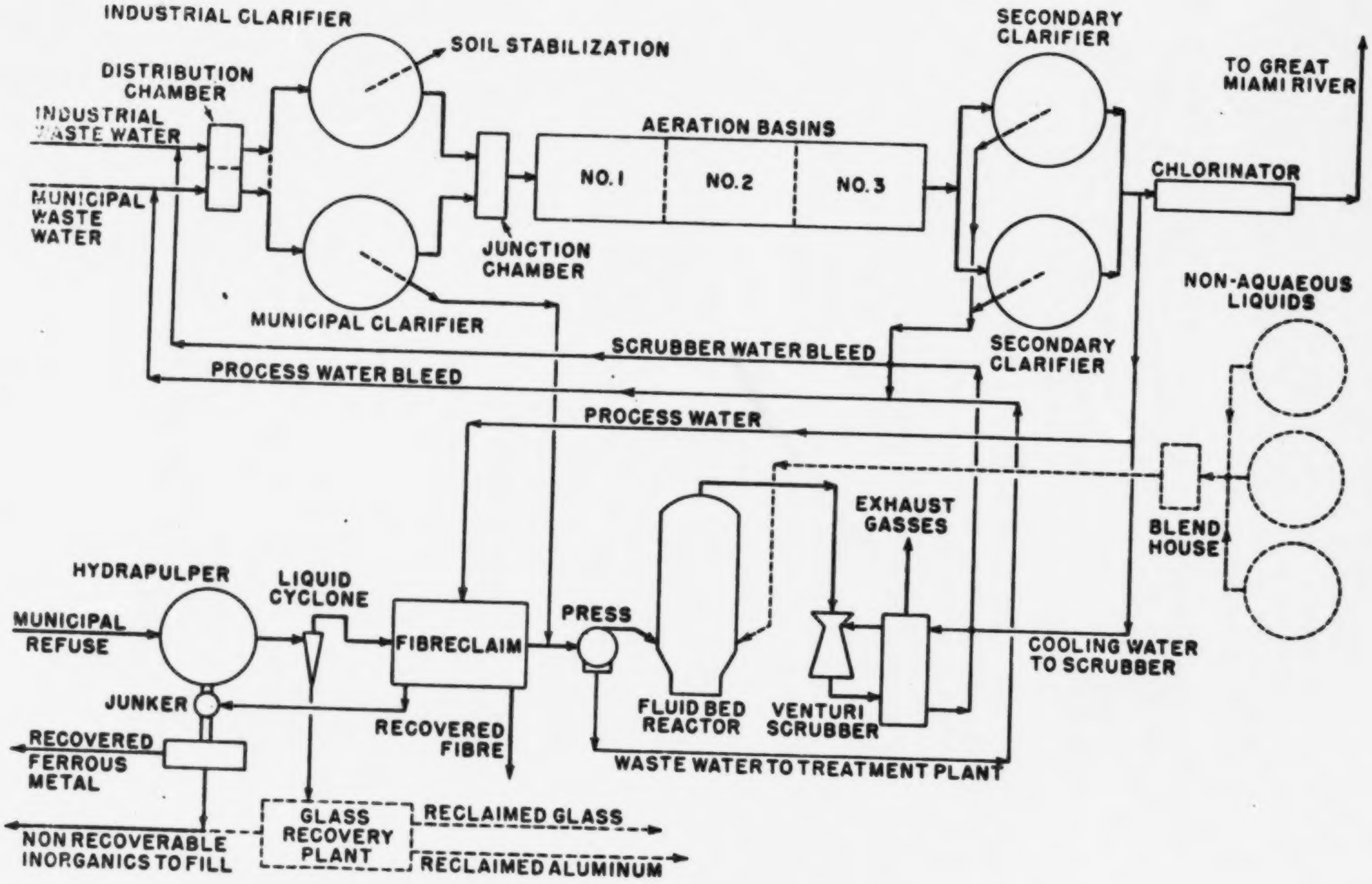
5. The development of regional facilities for the collection and destruction of non-aqueous liquid residuals, e.g., gasoline, oil, paints, solvents, etc., is essential for any plan to maintain water quality. Private enterprise is currently being encouraged to develop appropriate treatment facilities. Failing this, the District plans to undertake the task.

6. In 1968 the City of Franklin, Ohio, approached the District for assistance. They were under orders to clean up their effluent discharge. The problem was compounded by five paper mills also discharging in the same area. The District constructed an area wastewater treatment plant near Franklin to serve the city and its five paper mills and capacity to serve an area of 75 square miles. By agreement, Franklin collects the wastewater, regulates discharges into the system, and delivers it to the plant, which is operated by the District.

   Design criteria for such regional water treatment facilities include ability to accommodate changing loads, variable stream conditions, new water quality standards, increased user participation, and the latest technological techniques. There are financial savings also due to a single location, lower total equipment cost, lower costs for power and chemicals, a centralized laboratory and a smaller highly qualified staff.

   The Franklin Environmental Control Complex. The wastewater treatment facility in Franklin is unique for several reasons. For one thing, it is built adjacent to and designed to complement a solid waste recovery and disposal facility (also located on District-owned land). The two waste facilities work together in a mutually supportive manner: as one treats wastewater including the wastewater from the recycling plant, the other disposes of solid waste, including recovered waste material (sludge) from wastewater treatment. Also, the purified effluent from the wastewater plant is used as the process and cooling water supply for the solid waste plant, and the ash from the solid waste plant is used as a settling agent in the wastewater clarifier (See Figure 1). Project engineers estimate that this relation reduced capital costs alone by 40%.

FIGURE 1
FRANKLIN ENVIRONMENTAL CONTROL COMPLEX FLOW DIAGRAM


INDUSTRIAL CLARIFIER
SOIL STABILIZATION
DISTRIBUTION CHAMBER
INDUSTRIAL WASTE WATER
MUNICIPAL WASTE WATER
MUNICIPAL CLARIFIER
JUNCTION CHAMBER
AERATION BASINS
NO. 1
NO. 2
NO. 3
SECONDARY CLARIFIER
SECONDARY CLARIFIER
CHLORINATOR
TO GREAT MIAMI RIVER
SCRUBBER WATER BLEED
PROCESS WATER BLEED
PROCESS WATER
NON-AQUAEOUS LIQUIDS
BLEND HOUSE
EXHAUST GASSES
COOLING WATER TO SCRUBBER
HYDRAPULPER
MUNICIPAL REFUSE
LIQUID CYCLONE
FIBRECLAIM
PRESS
FLUID BED REACTOR
VENTURI SCRUBBER
JUNKER
RECOVERED FERROUS METAL
RECOVERED FIBRE
WASTE WATER TO TREATMENT PLANT
GLASS RECOVERY PLANT
RECLAIMED GLASS
RECLAIMED ALUMINUM
NON RECOVERABLE INORGANICS TO FILL

SOURCE: The Black Clawson Company

Regional Wastewater Treatment Plant. The wastewater treatment plant has a capacity of 4.5 million gallons per day (mgd) and is currently handling about 2.5 mgd. The effluent entering the plant (approximately 1100 pm) averages five times the strength of "normal" raw sewage. The lowest recorded removal rate was 93.5%.

The plant is completely automated, requiring only one operator approximately 30 hours per week. Sampling and monitoring is tied into a computer at the District's headquarters in Dayton. All critical plant functions are alarmed, with any failure activating a self-dialing telephone to the police dispatcher. There are complete backup systems, including standby generators. Should an emergency arise putting a primary clarifier out of service, the system is set up so that the entire flow can be diverted to the other clarifier. If both clarifiers should malfunction, wastewater can be diverted directly into one of the three aeration basins. There is no bypass available allowing untreated wastes to discharge directly into the Great Miami River. (See Figure 2.).

The Hydrasposal/Fibreclaim Solid Waste Recycling Plant. To meet an immediate problem in disposing of its solid wastes and to accommodate its future needs, the City of Franklin, Ohio embarked on a plan with a private business, the Black Clawson Company, to build a solid waste recovery plant. The idea for the plant was initiated by a Franklin City Councilman employed by Black Clawson.

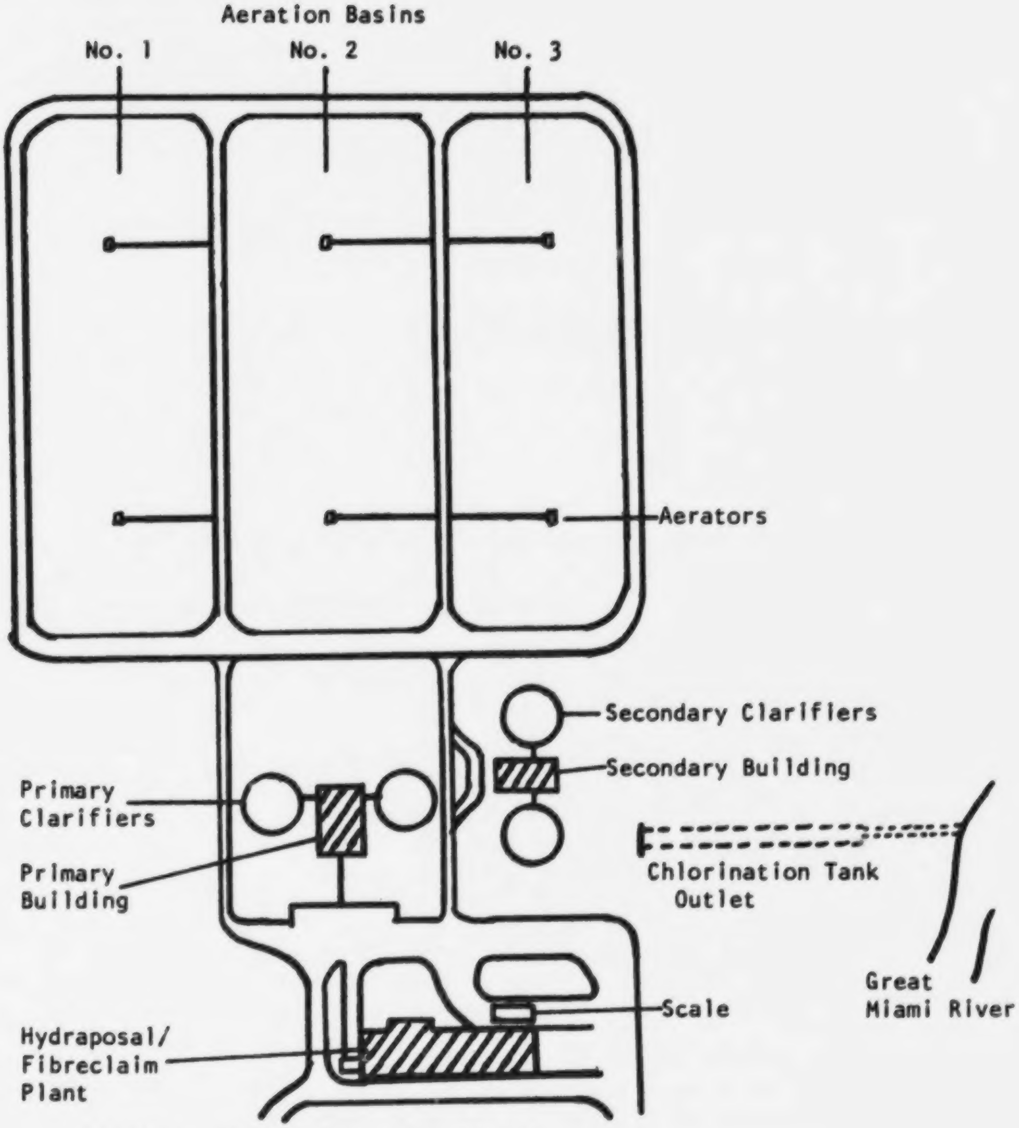
The plant was constructed under a two-thirds grant from the Bureau of Solid Waste Management, U. S. Public Health Service, HEW (now the office of Solid Waste Management Programs, EPA). Ground-breaking ceremonies were held in September, 1970 and the plant went into operation in mid-June, 1971. The plant is being operated by Black Clawson Fibreclaim, Inc., under a management contract with the city.

The plant is designed to handle a capacity of 150 tons per day. However, they are currently operating at the level of 50 tons per day. Private haulers bring refuse to the plant and are charged $6.50 per ton for disposal. Through a variety of processes, the plant then separates ferrous metals, aluminum, glass and paper fibres for reuse. The non-recoverable organic materials, plus the sewage sludge, is fed into an incinerator for burning. Non-recoverable inorganic materials are taken to a landfill (see Figure 3 for a breakdown on the types of materials treated and their final disposition).

To control its own environmental impact, the facilities were located on a large tract of ground on the outskirts of Franklin. A high volume air sampler is located nearby to test the air

FIGURE 2

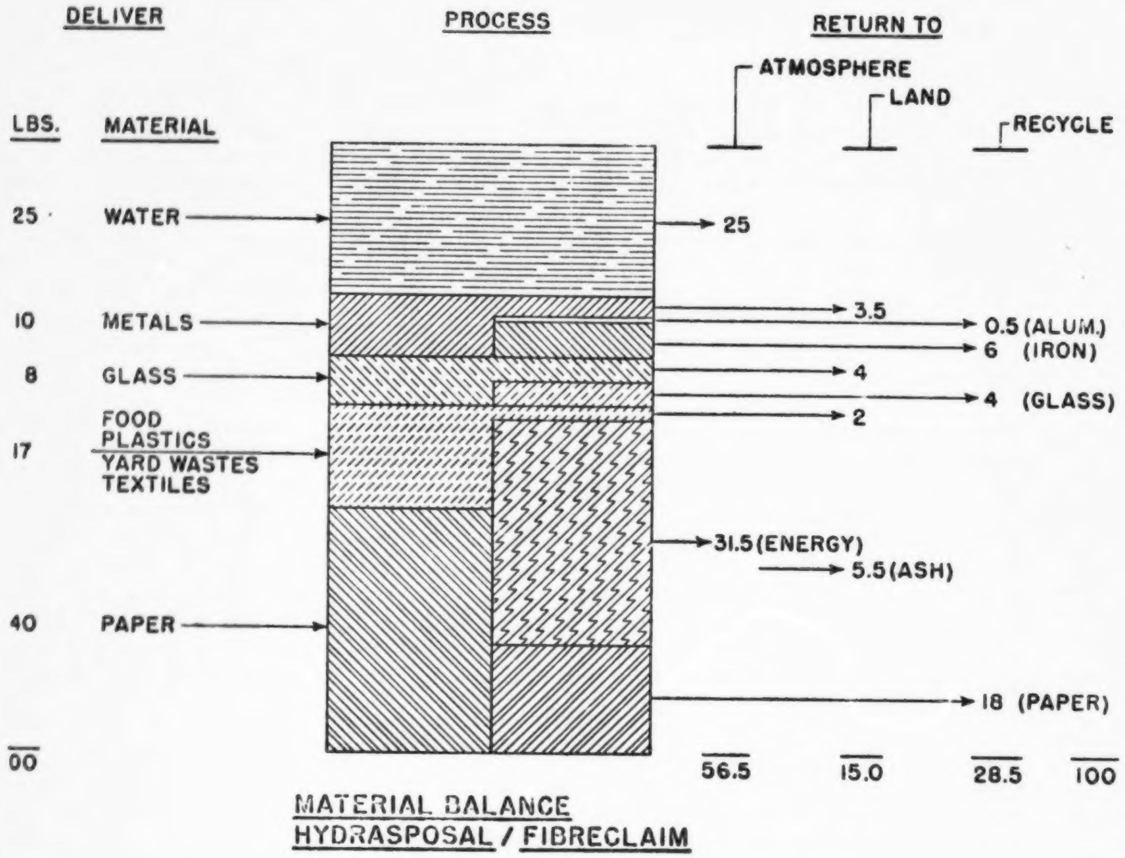
FRANKLIN AREA WASTEWATER
TREATMENT SYSTEM SITE PLAN


Aeration Basins
No. 1
No. 2
No. 3
Aerators
Secondary Clarifiers
Secondary Building
Primary Clarifiers
Primary Building
Chlorination Tank Outlet
Great Miami River
Scale
Hydraposal/ Fibreclaim Plant

SOURCE: Miami Conservancy District

FIGURE 3

HYDRASPOSAL/FIBRECLAIM MATERIAL BALANCE


DELIVER
PROCESS
RETURN TO
ATMOSPHERE
LAND
RECYCLE
LBS.
MATERIAL
25
WATER
25
10
METALS
3.5
0.5 (ALUM.)
6 (IRON)
8
GLASS
4
4 (GLASS)
2
FOOD
PLASTICS
17
YARD WASTES
TEXTILES
31.5 (ENERGY)
5.5 (ASH)
40
PAPER
18 (PAPER)
00
56.5
15.0
28.5
100
MATERIAL BALANCE
HYDRASPOSAL / FIBRECLAIM

SOURCE: The Black Clawson Company

quality. And, test wells are used to sample ground water for contamination. These wells found some initial contamination, but this no longer seems to be a problem.

The City of Miamisburg and the Miami Conservancy District are jointly studying the feasibility of connecting the Miamisburg wastewater plant to the Franklin regional plant for excess flows above the design capacity of the Miamisburg plant and for sludge disposal.

Additional tasks in the water quality area that the District is undertaking are: (1) building and operating two additional regional treatment plants, and (2) studies of landfill contamination of ground water and the movement of pollution in aquifers.

Money to operate District programs comes from three sources. Flood control funds are obtained via a property tax long collected for District by the County Auditors. Water quality programs are funded by fees charged the discharge permit holders. And wastewater treatment costs, e.g., the Franklin plant, are charged to the users through the City.

The example of the Conservancy District is an important one for the region because of the pattern of intergovernmental cooperation it has been setting for nearly sixty years. The philosophy of the District has been to restrict itself to the field of water management, to avoid duplication of efforts, and to act as a service agency or resource for businesses and governments.

District General Manager L. Bennett Coy admitted that "minor" conflicts exist, certainly. "Sometimes regional planners act as though they were the real professionals in the water field -- knowing the best treatment for a given area -- controlling population growth by suggesting negative action on sewer and water applications... On the other hand cities often ignore the possibilities of real benefits by regional or sub-regional action -- particularly in the waste treatment and water supply areas... Similarly, special districts, with their highly technical staffs may take positions in areas well beyond their expertise and capability, particularly in regard to population shifts and matters allied to water use, but beyond their jurisdiction.

"But in our area, in the Miami Valley, we have found a way to overcome most, if not all, of those problems. Basically, and for lack of a better phrase, we have evolved, by trial and error, a relationship that may be termed comparable to that of a "consenting adult" situation. We do things together that may not be well covered by law, but that, in the long run, are for the general good of the area and certainly beneficial to the participants." For example, the District provides comments on all water-sewer applications via the A-95 process conducted through two of the regional planning agencies in the Miami Valley. Also, the District, with information provided by cities, counties and regional agencies, developed the Water Quality Improvement Plan for the Great Miami River.

In the few years the Miami Conservancy District has had responsibility for water quality, a totally integrated wastewater planning and management system has not been achieved. However, the trend has been toward developing a coordinated regional program, and substantial progress has been made through the development of a regional plan and construction of regional facilities.

As the regional wastewater system continues to develop, it is not yet certain what the institutional framework will be. Recent federal legislation (Section 208 of the 1972 Water Pollution Control Act Amendments) encourages regional systems. However, both the special districts, e.g., the Miami Conservancy District, and the regional councils, e.g., the Miami Valley Regional Planning Commission, are competing for the role.

MONTGOMERY COUNTY COMBINED GENERAL HEALTH DISTRICT

At one time each township, village and city in Montgomery County had its own health officer, who, on a part-time basis, carried out many of the same functions that a sanitation inspector performs today. In 1918 the State adopted legislation allowing the formation of General Health Districts as political subdivisions of the State of Ohio with responsibility for health functions. The General Health Districts are governed by an advisory board consisting of representatives from member townships, villages, and cities. The advisory commission appoints a 5-member board of health. In the Miami Valley the larger incorporated urban areas generally created their own health agencies, while the Montgomery County General Health District covered the remainder of the area.

In 1956 the first air pollution regulation in the area was designed for the City of Dayton. At that time, neither business nor government seemed too interested in taking preventative measures against air pollution. Dayton's interest stemmed from attempts to curb the emissions from their incinerator. They eventually assembled a three-person staff located in the Department of Services and Buildings. This staff served as technical resources in the area for several years.

The Montgomery County General Health District passed its first air pollution regulations in 1960 and began a modest enforcement program. This was done to provide uniform standards for area inside the County as well as the City, as the City began to move against some asphalt plants.

When the Clean Air Act of 1963 was passed, grants became available for training on air pollution. This enabled the Health District staff to gain valuable expertise of their own.

In 1967 Montgomery County became one of the first counties in Ohio to study air pollution. Beginning with an initial grant of $20,000 ($15,000 in-kind) from the County and $5,000 from the City of Dayton, a $75,000 federal grant was received for a two year study identifying local air pollution problems.

As a result of the 1967 Clean Air Act, the Air Pollution Control Section of the Health District was able to develop several programs aimed at controlling and reducing air pollution. One of the first actions was to purchase a mobile trailer to be used as a testing laboratory. Today there are six mobile laboratories and 64 sampling stations. The sampling stations are located on public sites such as fire stations or schools throughout the region.

In March, 1971 the Combined General Health District was formed as agreements were reached with five counties -- Montgomery, Miami, Greene, Clarke, and Preble -- and the City of Dayton, to provide an air pollution program. Subsequently the size of the Montgomery County Combined General Health District health board was expanded to nine members -- five from Dayton. While these counties have centralized health functions in County Health Districts, most of the larger cities retained their health boards. Thus each policy change made by the Combined Health District must receive approval from each of the city and health district boards. A few communities, e.g., Oakwood, have maintained their own staff. However, they still contract with the Montgomery County Combined Health District for the air pollution control program (See AddendumC).

Originally Health District funding was principally charges levied against member jurisdictions. This limited source of revenue permitted few extensive or new programs. The development of the successful air pollution control programs by the Montgomery County Combined Health District was dependent upon outside funding. The current budget provides for a staff of approximately 30 and a total budget of approximately three-quarters of a million dollars.

Based on air pollution data compiled over the years, the level of pollution has decreased in virtually every category. Compliance has generally been achieved without major litigation, although often hearings before the board were necessary to confirm intent to enforce the standards.

Perhaps one of the most innovative and unique efforts within the Regional Air Pollution Control Agency is an unusual combination of law enforcement and ecology that has resulted in an environmental patrol program. The overall strategy of the program has been to teach policemen to become environmentalists. Experienced police officers with an interest in ecology are trained to deal with violations of the "environment". Wearing green uniforms with an ecology patch on one sleeve and a gun on one hip, the environmental policemen patrol several neighboring counties watching out for flagrant environmental violations such as illegal dumping or potential health hazards such as rabid dogs. They issue citations similar to parking tickets that warn the abuser to correct the violation within five days or else appear in court. Although the idea of gun-toting environmentalists disturbed quite a few individuals, the psychological effect of the men in green appearing before community groups and schools voicing the legal aspect of ecology, has strengthened their role in the protection of the environment.

What has been responsible for the success of this program? Perhaps the most important factor has been the leadership and support of local officials. Officials have backed up the enforcement efforts in the face of charges that industries would be forced to leave town or shut down. Second, there has been widespread public support from both the business community and citizen groups. Movement within the citizens of the Montgomery County area began with the efforts of the local Tuberculosis Association and gradually expanded into what is now called CAC -- Citizens for Cleaner Air Committee. CAC has encouraged stronger regulations. In addition, the Chamber of Commerce became supportive of the air pollution program. A third positive factor is the ordinance itself, which is reported to be one of the strongest in the Nation. Finally, the ability to address the problem of air pollution on a regional basis has increased effectiveness.

MONTGOMERY COUNTY SANITATION DEPARTMENT

Until three years ago, solid waste in Miamisburg and most of Montgomery County was disposed by means of landfills. As early as 1956, however, improper landfill operation and a dwindling supply of available land led county officials to consider other alternatives. Public concern, spurred by newspaper coverage, developed over the threat of ground water contamination from landfills. This had major implications for all localities, since virtually all of the drinking water in the area comes from underground rivers.

At the same time the county began investigating incineration, the City of Dayton decided that their own incinerator needed to be replaced. Subsequently, a consultant study for the Montgomery County Health Department led to the recommendation that a county-wide disposal system be established where solid waste would be collected and transported via transfer stations to incinerators for disposal. It was further recommended that the incinerators be owned and operated by the county because of their greater borrowing power. Finally, the study proposed that two incinerators be constructed initially.

A companion study was conducted to determine the equitable locations for the incinerators. Essentially it recommended that one be located in the north and one in the south. The precise location became quite a political issue, as no community wanted the incinerator within their boundaries, but they did want it to be convenient for lower transportation costs. Eventually, one was located in the county and the other in the City of Moraine. The site selected in the City of Moraine was predominantly industrial land that had been reclaimed from a landfill. In return for accepting an incinerator, Moraine received a new road.

The system was designed in 1958 and was later updated to anticipated EPA standards. Construction began in 1967 and operation began in 1970. Cost of the capital facilities totaled approximately $8 million. Once the plant was constructed, the County Health Department began closing landfills. Currently all landfills in the County are closed except for three that can accept no domestic waste. One of the primary sources of contention came from the private haulers, because it increased their operating cost. Private haulers remain one of the major problems facing the system today. It is known that some garbage is transported out of the county for disposal. The County receives assistance from most municipalities in enforcing the incineration law, and the County even trails garbage trucks with an airplane in an attempt to reduce the "bootlegging."

The incinerators have a capacity for 300 tons per day each, with built-in expansion capability. Currently the north plant is operating at 50 percent of capacity and the south plant at around 90 percent. The large difference in utilization reflects a much more rapid growth in the southern section of the metropolitan area than was anticipated. It is estimated the system handles 75 percent of the petrucible garbage in the county. Approximately a 90 percent reduction is achieved.

The originally cost of refuse disposal at the incinerator was $3.50 per ton. Until recently haulers were charged $7.90 per ton. Now, however, the rates have increased dramatically to $12.50 per ton. Plus, the county subsidizes the operation 42 cents on every ton.

The system is operated by the County Sanitation Department, under service agreements with the local governments in the County (see the attached agreement, Addendum d, between the City of Miamisburg and Montgomery County). Generally, the agreements cover all solid waste with the possible exception of some materials that are part of recycling programs. For example, the cities of Oakwood and Miamisburg shred brush or old Christmas trees for use as mulch, and Oakwood also collects newspapers separately and sells them for recycling (thus far the returns from the sale has been sufficient to meet operating costs). Seven of thirteen municipalities in the County have formal contracts. The remaining six cities participate and pay on a fee basis. The cost per ton is the same.

The agreements also provide for an Advisory Board to the program made up of six members; one appointed by the County, one by the City of Dayton, one by the Montgomery County Mayor's and Manager's Association, one by the Dayton area Chamber of Commerce, one by the recognized association of refuse haulers. While the purpose of this group is to resolve problems, in practice there is some question as to its effectiveness. One board member explained that the board is not really used.

The system is presently having difficulties with environmental problems. An attempt is being made to recycle the process water used. However, the pH of the water is so low (acidic) that it causes major corrosion damage to pipes and stacks. Disposal of the ash residue is also a problem. This material is not exempt from the County landfill ban. Consequently, it is piled beside the incinerator, waiting for a decision on what to do with it. The major environmental problem is the failure of the incinerators to meet the air quality standards. The County Air Pollution Control Section recently obtained an order to "cease and desist" the pollution of the air. This problem developed as a result of changing air quality standards. The recent adoption of stricter standards put the incinerator emissions above the allowable level of particulates.

The air pollution problem has directly contributed to the financial crisis and the rate increase to $12.50 per ton. The anticipated modifications will cost an estimated $4 million. The rate increase will have an immediate impact on cities (Miamisburg's costs will increase $40,000, and many local officials were threatening to break their contracts.)

Among the longer range alternatives being considered as solutions to the environmental problems are: (1) the development and sale of steam; and (2) the use of residue to fill the open pit mines in the southeastern part of the state.

MIAMI VALLEY REGIONAL PLANNING COMMISSION

The Miami Valley Regional Planning Commission (MVRPC) membership consists of five counties -- Clarke, Greene, Miami, Montgomery, and Preble -- and 31 municipalities in the Dayton metropolitan area. These jurisdictions represent 97 percent of the regional population. Each county appoints two members to the Commission and each municipality appoints one. These members are predominantly elected officials.

Funds to operate MVRPC come from membership assessments, local money for special projects, and federal grants. Membership fees are assessed at the rate of 15 cents per capita (counties pay for unincorporated areas only). A few special projects for local agencies are funded separately. The balance of the budget is derived from federal grants, primarily the HUD "701 Program".

MVRPC concern for the quality of the environment dates back to the "State of the Region Report" in 1966, where the problems of air and water pollution were summarized and the future impact projected. The Commission's role in environmental management includes chiefly the following efforts: (1) technical assistance; (2) planning assistance; (3) A-95 review; and (4) promotion of public participation. In general, the goal of the Commission is to serve as a vehicle for coordinating policies and plans throughout the regional area.

MVRPC has both an environmentalist and water management specialist on the staff to act as technical assistance resources. An attempt has been made to avoid building a staff duplicating expertise in another agency. Consequently, the Commission often relies upon existing resources, e.g., the county air pollution staff, or local university staff for noise expertise. In 1967 MVRPC published a report on the "Natural Resources of the Miami Valley Region." The purpose of the report was to inventory the natural resources of the region, analyze some of the associated problems, and make recommendations relative to managing these resources. Topics discussed include: geology and minerals, soils, water, biological resources (e.g., fish, wildlife), climate and precipitation, flood plain encroachment, water pollution, air pollution, and policy issues and recommendations for proper maintenance and use of resources. This report served as the technical base for the consideration of other environmental programs throughout the region.

Another example of the technical assistance provided is the "Status Report on the Quality of the Environment" published in 1970. This report attempts to critically evaluate the broad range of environmental problems and programs over the entire regional area, including air pollution, water pollution, solid waste, unregulated development, noise, and aesthetics. Not only does this report evaluate current programs, but it also recommends future action needed. The report requires action to be taken by no one, except as may be persuaded by the validity of the arguments.

MVRPC staff has also provided assistance in preparing environmental impact statements (e.g., Environmental Impact Statement on Iron Horse Park, 1972).

This assistance has been offered to both public agencies as well as citizen groups. Generally, agencies contract with MVRPC for the work and finance the cost incurred. Work for citizen groups has been, in part, at partial charge.

The environmental planning efforts of MVRPC began in 1967 with the issuance of the Open Space Plan (the plan was updated in 1972). Other plans include water and sewer master plans and programs for all five counties, and the Miami Valley Regional Bikeway Plan. These planning efforts were made possible primarily through the availability of federal financing.

MVRPC has been designated by the federal government as the A-95 review agency for the region. As such, it has the authority to review all federally aided projects in the region to insure their consistency with areawide planning efforts. Recently the State of Ohio extended similar authority to review state financed projects. The review process provides a mechanism to relate programs in various functional areas (e.g., water, housing) as well as programs developed by different jurisdictions (e.g., sewage treatment in Franklin and Miamisburg). The review carries with it the sanction of withdrawing approval for projects and thus the loss of the federal or state funds. An example in point is the case where two small municipalities only a few miles apart each decided to seek independently federal funds for the construction of sewage treatment facilities. MVRPC, supported by technical assistance from the Conservancy District, found that two separate plants would result in unnecessary duplication and expense. Thus approval was withheld. Also, MVRPC has been quite aggressive in the use of A-95 review procedures for implementing "fair share housing" in the region.

MVRPC has been an active proponent of citizen participation in the decision-making process in the region. In the previously mentioned "Status Report on the Quality of the Environment" MVRPC repeatedly criticizes environmental agencies for their failure to involve citizens. The key elements of MVRPC's citizen involvement program are information and opportunity. The extensive publications program of the Commission is aimed at providing some of this information for citizens. Also, the A-95 review process includes circulating copies of plans and policies to interested parties, including citizen groups. And in some cases, the Commission has gone so far as to provide the staff assistance necessary to publish newsletters for citizen groups, e.g., the Stillwater River Association, a nonprofit environmental group "dedicated to the preservation of the beautiful and natural Stillwater River."

As with most regional planning commissions across the nation, the future of MVRPC is far from predetermined. The effectiveness of the Commission has been limited because (1) financial constraints tie planning efforts to areas that are eligible for federal funding; and (2) the absence of authority to implement plans.

The role of the Commission over the next five years is not yet clearly defined. Discussions are underway in the region concerning combining the Commission with the local Council of Governments. In addition the State of Ohio is developing a system of substate districts, with the impact on MVRPC yet to be determined. Finally, the Federal Government, under Section 208 of the Water Pollution Control Act Amendments of 1972, seems to be willing to allow special districts, such as the Conservancy District, to assume some of the responsibility for functional planning. All of these events lead to a general atmosphere of uncertainty for the future.

CONCLUSION

Several different types of regional arrangements for environmental management are being used in the Miami Valley area, including: conservancy district, multi-county health district, contracts for county-wide refuse disposal, joint (federal - private - local) facilities, and regional planning commission. The specific examples described are not "ideally" successful, and are constantly challenged by new problems. However, they do represent attempts on the part of several jurisdictions to address environmental problems on their regional basis.

The regional approach to environmental management illustrated in this report does not include an example of a single all-encompassing regional environmental agency. Rather a unique arrangement was devised for each problem as it arose. This approach has the advantage of increasing the likelihood of political acceptance by the various jurisdictions and providing a structure responsive to particular problems.

The disadvantage of using a variety of regional approaches is that there is a need to look at environmental management in a comprehensive manner, e.g., what is the impact of this method of solid waste disposal on air quality. This perspective does not exist in the Miami Valley, except through the regional planning commission. While the MVRPC fulfills this role in part, their activities still are not inclusive of all segments of the environment on a continuing and in-depth basis.

It is clear from this study that no one regional approach is the solution for all problems in all regions. This is primarily because the problems vary from area to area. Second, the size and scope of a region may change from problem area to problem area. Also, the institutional framework, both existing and what is potentially acceptable, is different between regions. The key to adopting a regional approach is not the technical problems but the political-administrative problems. Governmental jurisdictions are not likely to work for regional programs solely for the sake of having regional programs. There must be a perceived benefit, such as lower cost, to offset the accompanying liabilities, which may include some loss of autonomy. Achieving a situation where each of several jurisdiction perceives a "net" benefit is not an easy task.

What, then, are the factors that have led the Miami Valley into regional programs? Some of the factors are:

1. Common Environmental Problems and Crisis. Banding together to rebuild after the flood or to meet water quality standards is an example.

2. High degree of Professionalism. ICMA survey results substantiate greater local cooperation among council-manager cities.

3. Conscious Efforts to Cooperate. For example, regular meetings of area mayors - and managers are held to discuss current problems. And, the City of Dayton has designated a staff liaison with the suburban communities.

Factors such as these obviously are present in areas throughout the nation and make regional arrangements a viable strategy for local governments. Although the specific arrangements in existence may or may not be directly transferable to other regions, an awareness of the alternatives is a vital step in developing regional approaches.

ADDENDUM a.

REFERENCES

A. Personal Interviews

Dale Bertsch
Executive Director
Miami Valley Regional Planning Commission

John Laney
City Manager
Miamisburg, Ohio

Robert H. Mears
Mayor
Miamisburg, Ohio

David Foells
City Manager
Oakwood, Ohio

Ted Gabler
City Manager
Vandalia, Ohio

Jerry L. Hebb
Manager
Personnel Safety and Environmental Control
Monsanto Research Corporation
Miamisburg, Ohio 45342

William H. Westendorf
Environmental Control Manager
Monsanto Research Corporation
Miamisburg, Ohio 45342

L. Bennett Coy
General Manager
The Miami Conservancy District
38 East Monument Avenue
Dayton, Ohio 45402

Personal Interviews cont'd

Timothy J. Doyle
Project Engineer
Planning and Development
The Miami Conservancy District
38 East Monument Avenue
Dayton, Ohio 45402

Robert J. Schroer, Jr.
Assistant Chief Engineer
Water Resources
The Miami Conservancy District
38 East Monument Avenue
Dayton, Ohio 45402

Wesley A. Flower
Chemical Engineer
The Miami Conservancy District
38 East Monument Avenue
Dayton, Ohio 45402

B. Publications and Reports

"Air Quality Report, Jan.-Dec., 1970" Metropolitan Dayton Intrastate Air Quality Control Region

"Air Quality Report, Jan.-Dec., 1971" Regional Air Pollution Control Agency

"Air Quality Report, Jan.-Dec., 1972" Regional Air Pollution Control Agency

"Environmental Monitoring Summary, Jan.-June, 1972" Mound Laboratory

"Hydrasposal/Fibreclaim:Solid Waste Recycling Plant" Black Clawson Company

"Iron Horse Park:Environmental Impact Statement" Maimi Valley Regional Planning Council, Sept., 1972

"Managing Water Quality... A Job of The Miami Conservancy District"

"Montgomery County Combined General Health District Air Pollution Control Regulation", 1972

Publications and Reports cont'd

"Mound Lab and the Environment" by Monsanto

"Mound Laboratory Environmental Control Program, 1973"

"Natural Resources of the Miami Valley Region," Miami Valley Regional Planning Council, June, 1967

"The Ohio Conservancy District Act Annotated", The Ohio Conservancy District Conference, W. H. Anderson & Co., 1970

"Open Space in the Miami Valley Region", Miami Valley Regional Planning Council, Jan., 1972

"Public Health News:Annual Report 1971", Montgomery County Combined General Health District

"Region Believes in Mutual Aid", *Newsleaf* Ohio EPA, Vol. 1, No. 4, Feb., 1973

"Regional Council, Local Governments and Special Districts" L. Bennett Coy, Paper Delivered to the Seventh Annual Conference of Regional Councils, Feb. 26, 1973

"Regional Water Quality Management Official Plan" Miami Conservancy District, Apr. 5, 1968

"Regional Water Quality Program, 1971-74" Miami Conservancy District, August, 1970

"Regional Water Quality Program--Second Addition to the Official Plan", Miami Conservancy District, June, 1972

"Regulations of the Ohio Air Pollution Control Board"

"Resolution Authorizing Execution of Amended Incinerator Agreement with the City of Miamisburg", Montgomery County, Ohio

"Status Report:Quality of the Environment," Miami Valley Regional Planning Council, Feb., 1970

"A Time For Decision", Miami Valley Regional Planning Commission

"Water and Sewer Master Plan and Program", Miami Valley Regional Planning Council

"Water Responsibility:1971 Annual Report", Miami Conservancy District

Morgan, Arthur E., *The Miami Conservancy District* (NY:McGraw-Hill, Inc.), 1951

ADDENDUM 6.

ORDINANCE NO. 1835

AMENDING CHAPTER 1111 OF THE CODIFIED ORDINANCES OF THE CITY OF MIAMISBURG BY ADDING THERETO NEW SECTIONS 1111.10 AND 1111.11 AND DECLARING AN EMERGENCY.

WHEREAS, it is reasonably expected that the City of Miamisburg will grow substantially in population over the next twenty years, and

WHEREAS, new residents will cause a need for neighborhood park service proportionate to their numbers, and

WHEREAS, the acquisition and development of park facilities to meet those needs should be financed by the residents of new areas directly benefitted thereby, and

WHEREAS, it is the recommendation of the Miamisburg Park and Advisory Board that such special benefit be recognized by establishing a fee payable on all residential units at the time of building permit issuance,

NOW THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF MIAMISBURG, OHIO, TWO-THIRDS OF THE ELECTED MEMBERS THERETO CONCURRING THAT:

Section 1.

There is hereby enacted Sections 1111.10 and 1111.11 which shall provide as follows:

1111.10 PARKS AND PARK SITES

a) There is hereby established a fee to be paid on each building permit issued for the construction of a residence structure in the City. This fee shall be:

	Number of Bedrooms				
	0-1	2	3	4	5
Fee	$47.00	$63.00	$79.00	$95.00	$111.00

This fee is applicable to mobile homes, and other industrially manufactured residential units where such units do not otherwise require a building permit but where it is required that they have a footer, foundation or other supporting slab or pad. And no permit shall be issued for the construction of such foundations, footers or pads and slabs until and at such time as the appropriate fee is paid.

b) All such fees shall be used for the acquisition, purchase, development and equipping of neighborhood parks and park sites in the City.

c) All fees collected under this section shall be placed in the Park Capital Fund.

d) No building permit for the construction of a residence structure in the City shall be issued unless and until the fee provided for in this section is paid on each such building permit issued.

e) No person, firm or corporation shall receive or be entitled to receive the building permit for the construction of a residence structure in the City unless and until the fee provided for in this section is paid on each such building permit issued.

f) Nothing contained in this section shall relieve or be interpreted as relieving any person, firm or corporation from complying with all other ordinances, laws, rules, regulations of the City or of any other governmental agency where they are now in force or hereafter enacted, regulating and governing the issuance of building permits for the construction of residence structures and/or commercial or business structures in the City.

g) Not withstanding provisions in this section to the contrary, council may, at its sole option, enter into a contract with any person, firm or corporation, who or which is subject to the payment of the fee established in subsection (a) of this section. Such contract shall provide that upon the execution and delivery by such a person, firm or corporation of a deed of general warranty conveying to the City, and its successors and assigns, a good and marketable title to the real estate described in such deed, free and clear of all liens and encumbrances thereon, such person, firm or corporation, upon executing and delivering such deed, shall receive a credit against the fee established in subsection (a) of this section, which credit shall be in an amount equal to the value of such real estate. The value of such real estate shall be determined by negotiation between the parties or agents for the parties.

h) Not withstanding provisions in this section to the contrary, council may, in the case of a Residential Planned unit Development, waive part or all of the fee established in subsection (a) of this section. Such waiver may be granted when, in the opinion of council, common areas, created and developed in a Residential Planned Unit Development pursuant to Ordinance 1482 as amended, provide recreation opportunity for the residents of said areas sufficient to impose no measurable increment in the need for neighborhood park acreage.

i) When invoking the waiver provisions contained in subsections (g) and (h), council shall seek the written recommendations of the Miamisburg City Planning Commission and the Miamisburg Park and Recreation Advisory Commission in the manner provided by Section 4.12 of the Charter of the Municipality of Miamisburg.

j) All persons, firms and corporations, who or which are subject to payment of the fee established in subsection (a) of this section, must pay such fee, unless and until such persons, firms or corporations are relieved of the payment of such fee by council in the manner provided for in this section.

1111.11 OTHER OPEN SPACES

a) Provision of green belts or similar buffer areas may be required by the Council in areas where they are desirable to separate or protect residential subdivisions from adjacent commercial developments, major streets or highways, railroad rights-of-way, electric transmission lines, underground gas' transmission mains, other underground public facilities, public parks, major drainage channels, public parks or areas of special scenic or historic significance.

Such provision of land shall be in accordance with Section 1111.10 (g).

Section 2.

This ordinance is declared to be an emergency measure necessary for the immediate preservation of the public, peace, safety and welfare and for the further reason that the accumulation of funds for neighborhood park acquisition and development is required to begin at the earliest possible date, therefore, this measure shall take effect and be in force from and after its passage.

Passed: May 18, 1971

Attested: Marcella E. Clark
Clerk of Council

Approved: Robert H. Mears, Sr.
Mayor

ADDENDUM c.

"1973" CONTRACTUAL AGREEMENT
BETWEEN MONTGOMERY COUNTY COMBINED GENERAL HEALTH DISTRICT AND THE CITY OF MIAMISBURG

TO: Mayor & Council
Miamisburg, Ohio 45342

ATTENTION: Mr. John Laney, Manager

"By unanimous consent of the Montgomery County Board of Health, as shown in the minutes of their regular meeting conducted July 5, 1972, the Board of Health agrees to conduct a public health program and render public health services for the City of Miamisburg for one year commencing January 1, 1973, equivalent to the program carried on within the Montgomery County General Health District.

For such services, the City of Miamisburg agrees to pay to the Montgomery County Board of Health the sum of twenty-one thousand seven hundred forty seven dollars ($21,747) plus the amount of reimbursement received from the State Treasurer and generally known as State Subsidy to local public health.

The Montgomery County Board of Health agrees to furnish such health services as the General Health District is receiving so far as the present budget will permit."

SIGNED:

President-Montgomery Co. Bd. of Health

DATE: ____________

Health Commissioner - Montgomery Co.

The City of Miamisburg accepts the above Contractual Agreement.

SIGNED:

Mayor of Miamisburg City

Manager of Miamisburg City

CITY OF MIAMISBURG
ORDINANCE NO. 1980

AN ORDINANCE AUTHORIZING THE CITY MANAGER TO ENTER INTO A CONTRACT WITH THE MONTGOMERY COUNTY COMBINED GENERAL HEALTH DISTRICT FOR PROVISION OF PUBLIC HEALTH SERVICES DURING THE YEAR 1973 AND ESTABLISHING THE COST THEREOF AND DECLARING AN EMERGENCY.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF MIAMISBURG, STATE OF OHIO, TWO-THIRDS OF THE ELECTED MEMBERS THERETO CONCURRING THAT:

Section 1.

The City Manager is hereby authorized to enter into a contract with the Montgomery County Combined General Health District to conduct a public health program and render public health services within the City of Miamisburg during the year 1973.

Section 2.

Cost of said contract is hereby established as $21,747.00 plus the amount of reimbursement received from the State Treasurer as State Subsidy to local public health.

Section 3.

This measure is declared to be an emergency measure necessary for the immediate preservation of the public peace, health and welfare and for the further reason that Council desires said contract to be in effect at the earliest date, therefore this measure shall take effect from and after its passage.

Passed: ____________________ Attested: ____________________
Clerk of Council

Approved: ____________________
Mayor

ADDENDUM d.

AMENDED AGREEMENT

WHEREAS, the problem of the removal and disposal of garbage and refuse has become so acute in Montgomery County, particularly within the cities and urbanized areas, that it will, unless solved, vitally affect the public health, safety, and welfare of the inhabitants thereof, and

WHEREAS, the officials of the various participating political subdivisions are in accord that incineration is the most practical solution of this problem, and

WHEREAS, it is to the public interest that such incineration be accomplished in the most economic manner commensurate with sound engineering practices in the construction, maintenance, and operation thereof, and

WHEREAS, the fiscal advisors for the County in financing part of the cost of constructing the incinerators described herein by the issuance of revenue bonds under Section 133.06 of the Ohio Revised Code, have recommended that to make such bonds marketable it will be necessary to make more definite and certain the sufficiency of disposal or incineration charges, and

WHEREAS, it is necessary to amend the agreement between Montgomery County and the City of ____________________, dated ____________________;

NOW, THEREFORE, the parties hereto hereby mutually undertake promise, and agree as follows, to wit:

DEFINITIONS

As used herein, the following words and phrases shall be interpreted to mean:

"County" shall mean Montgomery County, Ohio

"City" shall mean City of Miamisburg

"Disposable waste" shall mean all garbage and combustible refuse, including cans, bottles, and other food containers, provided, however, that leaves, Xmas trees, and other similar items may be excepted, upon recommendation of the Advisory Board and approved by the County.

"Landfill waste" shall mean all other materials not designated as disposable wastes.

"Licensed Haulers" shall mean any hauler who has been duly licensed for the hauling of refuse or trash in conformity with the regulations of the Board of Health of Montgomery County General Health District, per Sanitary Regulations of the Board of Health of Montgomery County under general authorization of the Revised Code of the State of Ohio, 3707.01 et seq.

"Approved Disposal Site" shall mean any location or area approved by the district Board of Health for disposal purposes.

1. THE COUNTY SHALL:

(a) Undertake the construction, maintenance, and operation of garbage - refuse disposal plants in accordance with the General Plans and Specifications - recommended by the Joint Incinerator Study Committee, dated May 6, 1965;

(b) Employ a consulting engineer who will be recommended by the Joint Incinerator Study Committee and who shall be responsible for the preparation of construction on plans and specifications to be used in obtaining bids on the incinerators and their facilities; shall advise the County in the awarding of contracts and shall supervise the construction involved in such contract;

(c) Issue such bonds as are necessary to cover the entire costs of the engineering and construction of the incinerators, land, and other facilities which bonds shall be payable out of the revenues derived from the rates and charges hereinafter provided for;

(d) Take such action as is necessary:

(1) to require all political subdivisions within the county either by agreement or by regulation of the Montgomery County General Health District to provide for the disposal of their disposable waste and landfill waste by the use of the official County disposal plan;

(2) to have all waste that is collected hauled to an approved disposal site;

(3) to regulate and control, in addition to the incinerators, all landfills within the County, but outside the Municipal Corporation;

(4) to prohibit any landfill or disposal facilities within the County, but outside the Municipal Corporation, which is not incorporated and made a part of the official County Refuse Disposal Plan.

(e) To provide for an Advisory Board to be made up of six (6) members, one of whom shall be appointed by the County, one by the City of Dayton, one by the Montgomery County Mayor's and Manager's Association, one by the Dayton area Chamber of Commerce, representing industry, one by the recognized association of township trustees, and one by the recognized association of private refuse haulers, provided, however, that no political subdivision shall have more than one representative on such Board; which Board shall be charged with the duty of making recommendations to the County insofar as the number and competency of personnel, the establishment and/or modification of rates and charges as needed to meet the cost of management, maintenance and operation, and debt service charges. Such Board to meet at least once quarterly and at such other times as at least three (3) members thereof may request with not less than four (4) members constituting a quorum.

(f) To keep in operation the incinerator plants and the incinerator landfill facilities every day of the year, Sunday only excepted, at least between the hours of 7:00 a.m. and 3:30 p.m.

(g) Shall equip each incinerator plant with an automatic weighing device which shall issue duplicate weighing receipts for each load, one copy of which shall be handed or delivered to the truckdriver at the time of weighing.

2. OBLIGATIONS OF CITY:

In consideration of the above and recognizing that the City owes a duty to the residents of the City to afford them every reasonable protection to assure their health, safety, and welfare, the City shall:

(a) Guarantee the County, upon completion and commencement of operation of the incinerators that it will deliver through its own collection system, and to the extent that collection is handled by licensed haulers, require its licensed haulers to deliver to the incinerator plants all of its disposal waste. Incinerators to be located in the vicinity of Stop Eight Road and Bertwynn Lane;

(b) Pay to the County, and/or require its licensed haulers to pay under rules and regulations established or to be established by the County and the General County Health District, not to exceed $3.50 per ton for such disposal waste in the first year of operation, said rate to apply to all users. Thereafter the rate per ton shall be as established in accordance with procedure prescribed by item (B) of the "General Provisions" contained herein; provided, however, that such rate shall at all times be sufficient to pay the expenses of operation and maintenance of the County incinerators, the principal and interest charges of both the revenue and general obligation bonds issued by the county, including debt service and other security reserves prescribed for the revenue bonds and the replacement of any monies paid from capitalized reserve established in the bond and interest redemption account by the resolution authorizing the issuance of said revenue bonds. Payment of tonnage charges shall be made within thirty (30) days after presentation by the County to the City or to haulers licensed by the City, or other users of an itemized invoice showing the tonnage delivered, such invoice to be submitted monthly;

(c) To prohibit any landfill or disposal facilities within the City which is not made a part of the official County Refuse Disposal Plan;

(d) To regulate and control all landfills within the City.

GENERAL PROVISIONS

A. IT IS MUTUALLY UNDERSTOOD AND AGREED that the annual tonnage rate used herein is based upon the estimated weights contained in the report and survey on refuse disposal problems (which has been in the report and survey on refuse disposal problems) which has been prepared by the consulting engineer, as applied to the total construction and installation costs, which also includes land acquisition, engineering and consultant fees, operating costs, all debt service charges, and capitalized interest for the period between the sale of the County securities and the time that the facilities are in operation on a revenue producing basis.

B. This rate is to be reviewed annually by the Advisory Board as provided by Item I (e) hereof, and such Board shall make recommendations for adjustments depending upon the experience and costs resulting under actual operating conditions, it being understood, however, that any new rate or rates so established shall be uniform as to all political subdivisions.

C. Upon the faithful performance of all of the conditions and stipulations to be performed by the parties hereto, this Agreement shall continue in full force and effect until such time as the bonded indebtedness, in original or refunded form, incurred by the County in the installation and operation of the facilities included herein has been completely paid and retired and may be renewed from time to time thereafter for such period or periods of time as may be mutually agreeable by the parties hereto.

IT IS UNDERSTOOD AND AGREED that this Agreement shall not be binding upon the parties hereto unless and until like agreements have been entered into by and between the County and the cities of Dayton, Oakwood, Kettering, West Carrollton, Vandalia, and Moraine, and rules and regulations of the Montgomery County General Health District have been established consistent with the provisions of this Amended Agreement.

IN WITNESS WHEREOF, the parties hereto have hereunto affixed their names and official seals this 13th day of June 1967.

City OF Miamisburg

By Paul R. Stevich, Mayor

APPROVED AS TO FORM:

William D. Forbes
Prosecuting Attorney

Montgomery County, Ohio

By ____________________

By Edward C. Helke

By Robert E. Kline
Board of County Commissioners

APPENDIX 5

PIEDMONT TRIAD REGION, NORTH CAROLINA

Introduction

The Piedmont Triad Region is an eleven county area in north central North Carolina of 5443 square miles.* This region contains 20% of North Carolina's population. More than 50% of the Piedmont Triad's population is concentrated in Guilford and Forsyth counties. Between 1970 and 2000, the population of this area is projected to increase around 40%. Since it was not possible to study the entire Piedmont Triad, this field study focused on the two primarily urban counties--Forsyth and Guilford. Both Forsyth and Guilford Counties have been active in developing environmental programs. It should be pointed out that other local governments in the Piedmont Triad have effective environmental programs and their omission should not be taken as a reflection on their quality.

CITIZEN INVOLVEMENT

Both Forsyth and Guilford counties have active environmental groups which have pushed for better environmental management. In Guilford County, citizens have exerted considerable political pressure for environmental action. One of the most interesting events was the release in October 1970 of a citizen report *A White Paper: An Assay of Environmental Conditions in Guilford County with Recommendations to Candidates for Public Office*. A group of fourteen local scientists analyzed present environmental conditions including the topics of: Population of Guilford County, Compatibility of Land Use, The Atmosphere, Water Resources, Noise Pollution, Pollution by Radioactivity, Thermal Pollution, Ecological and Human Values.

The primary purpose of the report was to inform the citizenry on the environmental degradation in Guilford County and to provide specific direction for elected government officials. For Guilford County, the *White Paper* recommended the following:

--Establish and recognize a nine-member citizens' board (an extra-governmental body, membership accepted voluntarily by qualified persons) to aid governmental departments carry out their responsibilities.

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*It consists of the following counties--Surry, Yadkin, Davie, Stokes, Forsyth, Davidson, Rockingham, Guilford, Randolph, Casewell and Alamanac.

--Implement the recommendations published in the reports entitled "Open Space" and "Open Space and Recreation Implementation Plan" written by the Guilford County Planning Department including the establishment of a County Conservation and Recreation Board.

--Initiate action to secure further information (to supplement economic data) about the effects of aircraft noise upon human and animal life; the limits to which aircraft operations may impinge upon the well-being of private citizens; means of providing better public mass transportation.

One year later, a supplement was added to the White Paper updating it and reviewing their recommendations. At that time, none of the seven recommendations had been acted upon. However, the supplement did commend the solid waste pulverization program.

In Forsyth County, environmental groups and the local press have been very active in stimulating environmental action. An environmental Coordinating Council (ECC) has been established consisting of fifteen environmental related groups--League of Women Voters, Youth for a Cleaner Environment, Nature Science Museum Guild, Junior Woman's Club, Winston-Salem Jaycees, Pilot Club of Winston Salem, Town and Country, Junior League of Winston-Salem, West End Association, Garden Club Council, Community Environmental Action, Reynolds Planning Council, Gordon Manor Woman's Club and American Association of University Women. The ECC has played an active role in conducting research in cooperation with the county government and the City of Winston-Salem, and in sponsoring programs in environmental education. In addition, the Winston-Salem Journal and Twin City Sentinel have played an active role in exposing environmental issues. The high quality of their article is reflected in the paper's winning a Pulitzer Prize in Journalism for meritorious public service for a series of articles on environmental problems. One example was a brief series of articles on a massive fish kill in the Yadkin River in which 35,000 fish were killed in one day. The problem was due to inadequate sewer system in Winston-Salem, particularly the inability to handle the waste discharge from the Joseph Schlitz Brewing Company. The series included outlining and analyzing the result of corrective programs taken by Winston-Salem and the Schlitz Brewing Company.

Innovative Organizational Arrangements

The organizational arrangements which have evolved in the Piedmont Region include:

(1) the use of citizen advisory boards, concentrating on the Guilford County Advisory Board for Environmental Quality and Regional Piedmont Triad Committee on Environmental Affairs; and

(2) intergovernmental service agreements, focusing on Guilford County's Consolidated Water Extension Program and Solid Waste Pulverization-Disposal Program.

The action strategies for environmental management include:

(1) the proposed environmental impact statement process for Forsyth County;
(2) the City of Greensboro wastewater surcharge;
(3) programs in environmental education in Forsyth County;
(4) the Piedmont Triad Council of Governments environmental inventory; and
(5) the proposed soil erosion ordinance in Forsyth County.*

Citizen Advisory Board

In October, 1972, the Guilford County Board of Commissioners created by resolution the Guilford County Advisory Board for Environmental Quality (Environmental Board). The Environmental Board serves in the capacity of an extra-governmental organization of knowledgeable citizens, and operates with the following objectives:

--to provide technical information and supplemental advice to Guilford County Board
--to aid governmental units to maintain and/or improve environmental conditions
--to assure safe, healthful, and aesthetically pleasing surroundings for all inhabitants, present and future.

The County officials felt that they lacked the internal expertise to handle many environmental problems and therefore turned to the resources and expertise in the community. Fortunately, within the County are two colleges--North Carolina A & T and the University of North Carolina, Greensboro--where some of the expertise could be found. In addition, the White Paper had created some strong pressure on Guilford County to have some form of advisory body.

In selecting the Board members, the Commissioners solicited names of potential members from environmental and civic groups as well as industry. A list of 90 individuals was developed. However, the County Board of Commissioners could not reduce the nominees for the Environmental Board to nine which was the number of Board members provided for in the original resolution. As a result, a second resolution was passed in December separating specialists in Water and Air Resources. In January, 1973, ten Environmental Board members were appointed by the County Board of Commissioners. The members of the Environmental Board were appointed for initial terms of 1, 2, or 3 years, with succeeding appointments for 3 years. The Environmental Board is composed of one each of the following specialists:

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*The ordinance, adopted by the Forsyth County Board of Commissioners (April 30, 1973), was put into effect on July 1, 1973.

--Air Resources
--Water Resources
--Land Resources
--Vascular Plants
--Societal Affairs
--Biology
--Aesthetic Concerns
--Urban Technology or Public Health
--Legal Affairs or Economics
--Public Communications or Education

The present chairman is currently district conservationist with the U.S. Soil Conservation Service. Other Board members include: two university professors; a former teacher and present Chairman of the Environment Projects Committee, American Association of University Women; Manager, Pollution Control Division of an air conditioning firm; housewife active in cultural affairs; a retired County Farm Agent; a practicing attorney with strong environmental interests; vice president of a rendering company; and a land developer. In addition to the ten members, a Community Liaison has been also appointed for a one year term by the County Commission to act as a go-between with the Environmental Board and other community groups, particularly ones interested in environmental affairs. This person is to function to disseminate information, encourage citizen groups to recognize and use the Environmental Board, and channel information from citizen groups to the Environmental Board.

This Environmental Board does not occupy an official position with authority to enact laws or regulations or to determine official policies or procedures binding upon the administration of governmental units. However, the Environmental Board, as an integral part of its obligations, can initiate studies and make reports of its studies and recommendations to the Board of County Commissioners. Within the purview of the Environmental Board as an advisory body, the following functions must necessarily be performed:

--Investigate environmental conditions of Guilford County
--periodically
--Review regulatory procedures and methods of governmental units
--Review appropriate records and reports of governmental units
--Review the findings of private consultants employed by the County Commissioners or departments under their authority
--Compile research data
--Compile the results of practical tests, "pilot projects," and operations
--Solicit additional technical aid when required
--Coordinate efforts and information of governmental units other than those of the County government

--Encourage the establishment of formal research projects proposed to study environmental conditions in Guilford County
--Cooperate with and coordinate activities of various environmental committees and organizations of citizens concerned with environmental quality
--Cooperate with and coordinate activities of educational institutions, private enterprises, and private citizens
--Solicit and review suggestions and recommendations and criticisms made by all individual parties and organizations
--Explore the possibilities of acquiring public and/or private grants to fund special activities with objectives to improve the environmental quality of the County
--Issue timely reports to the Guilford County Board of County Commissioners
--Draft ordinances for enactment by the County Commissioners
--Participate in meetings with the County Commissioners, government employees, and general public to explain findings, decisions, and recommendations as required.

To assist the Environmental Board in fulfilling these functions, the County Planning Department has provided the Board with one staff person.

From January to March, 1973, the County government held a series of orientation meetings for all Board members. On March 1, 1973, the Environmental Board held its first meeting and adopted by-laws. As one of their first tasks, the Board decided to divide into four subcommittees:

--Large Scale Sites
--Monitoring Environmental Damages
--Energy Crisis
--Ongoing Procedures and Operations

At the present time, the subcommittees are just getting organized. A second task initiated by the Environmental Board was a survey of environmental and civic groups designed to identify areas of concern and undesirable conditions and to solicit participation in the Board's activities. The responses were coming in at a very slow rate at the time of the field study. A third task was the adoption of a resolution requesting that Guilford County make arrangements with the U.S. Army Corps of Engineers to map all areas affected by periodic flooding in order that a flood plain ordinance be prepared.

During the field studies, several operational problems were evident:

--confusion on roles with the Board members envisioning technical assistance from the staff and the staff seeking expert opinion from Board members
--commitment of members to the Environmental Board and its goals as demonstrated in the lack of a quorum at several consecutive meetings

--one staff member could not provide adequate support.

An example of another type of citizen advisory board is the Regional Piedmont Triad Committee on Environmental Affairs (Committee on Environmental Affairs). In 1971, forty persons were appointed to the Committee on Environmental Affairs to serve as a regional advisory body on environmental and related matters. At their first meeting, CEA divided itself into eight task forces: economics, education, government, recreation, religion, social welfare and health. Each task force was to analyze and identify desirable goals and objectives in its specified area in relation to environmental matters. In November 1971, a series of workshops was held by PTCOG in which some possible area-wide goals on environmental issues were presented. The task forces went their own directions which made it nearly impossible for meaningful integration of reports. In addition, a gift of $6,000 from a committee member was received, but the donor thought the funds were never used properly. In discussion with Roger Schecter, Regional COG Environmental Planner, the following problems were cited:

--individual group perspectives and not regional or general environmental perspective
--strong individual personalities dominating task force activities.

Because of its operating problems, the Committee on Environmental Affairs has been disbanded.

INTERGOVERNMENTAL SERVICE AGREEMENT

Guilford County has taken a very active role in developing intergovernmental service agreements with the cities of Greensboro and High Point. Two agreements, the Consolidated Water and Sewer Extension Program and the Solid Waste Pulverization-Disposal Program, are of interest to this study.

Consolidated Water Extension Program

During the early 1960's, Guilford County recognized it had the major ingredients to attract tremendous industrial and residential growth; namely, a very adequate state secondary road system, two major interstate highways, a regional airport, and a feeder trunk of Southern Railroad. In an attempt to deal with the problem of uncontrolled growth, in 1964 Guilford County adopted a County-wide zoning ordinance, established a long-range planning division as well as provided a Building Inspections Department (Electrical, Plumbing Mechanical and Structural). After establishing the regulatory and planning agencies, the Board of County Commissioners felt they could then supply the "missing ingredient" necessary for accelerated, but tightly controlled development -- public water and sewer service.

During Spring 1965, the City of Greensboro and Guilford County adopted a resolution stating in-part, "WHEREAS, it is the intent of both governmental units herein to provide existing water and sewer facilities into certain areas outside...the corporate limits of the City of Greensboro in order to adequately and efficiently provide much needed water and sewer services...to the end that a healthy, orderly and coordinated system of continued growth and development will be attained in a manner most consistent with the general welfare ".

The County would finance the extensions and the City would provide the water and treat the wastewater with existing municipal facilities. The County, unable to utilize property tax revenue for construction (since it could not be offered to all citizens), initially relied heavily on interest-free loans from industry and residential developers to finance the first line extensions and establish the system. The loans were to be paid back from fees and charges paid by users of the utilities. Even with these meager beginnings, the program began to snowball and within three years a system valued at $2.4 million had been installed through these interest-free loans, non-tax revenue and additional monies accumulated in the program's revolving account. From 1965 through 1967, extensions were made from the Town of Jamestown. These extensions of sanitary sewer service, even though modest in comparison to those from Greensboro, served areas extremely important to the community. These Jamestown extensions served the campuses of the area's technical institute, an elementary school and a high school; and they also served a major facility of Burlington Industries.

In 1968, the program became a little more sophisticated with the advent of a revised City-County Agreement. This amended contract established a municipal-type operation utilizing an assessment program, more sophisticated accounting, and long-range planning. It also contained, within the new Agreement, the establishment of Service Perimeter Areas in which extensions could be made if approved by the County. The rate of extensions between 1968 and 1970 slowed to a certain extent with only $1.7 million dollars worth of lines being installed.

However, 1970-71 was a landmark year for the program. Within a period of 12 months the County signed an extension agreement with the City of High Point, thereby doubling the land area potentially to be served by utilities; began confirming and collecting assessments levied on past construction (at least tripling the rate of revenue return from the lines); and successfully conducted a $5 million bond referendum for future extensions. Owing to the use of bond funds, the funds available in the revolving accounts, and federal and state assistance, the program today is extremely active. Fiscal year 1972-73 saw approval of line construction valued at over $2 million. During fiscal year 1973-74, over $3 million worth of construction will be initiated (about evenly divided between the Cities of High Point and Greensboro).

The most established revolving account, with the City of Greensboro, is presently realizing a rate of revenue return of about $200,000 annually. These funds are, of course, added to the available bond funds to construct additional lines. With operation of the additional lines approved in F.Y. 72-73 and 73-74, the Greensboro revolving account should eventually realize an annual revenue of over $500,000.

The program's working arrangement is outlined as follows:

(1) On the basis of majority petition from property owners, public health necessity, or public developmental necessity, the County may approve a project.
(2) The project's scope is determined by the County's Division of Environmental Services and Division of Environmental Health in conjunction with the City Public Works Department, and is engineered to meet City construction specifications.
(3) The County delivers the necessary funds to the City and the construction contract is awarded by the City.
(4) The City's Public Works and Engineering Departments oversee construction.
(5) Upon completion of construction the probject is relinquished to the City.
(6) The City's Assessment Division prepares the assessment roll which is delivered to the County's Division of Environmental Services.
(7) The County confirms the assessments which are then administered by the Division of Environmental Services.
(8) Connections to the water and/or sanitary sewer lines are voluntary unless ordered by the Division of Environmental Health.
(9) Actual connections (meter installations, etc.) are accomplished by the City's Division of Water & Sewer Administration.
(10) At time of tap-on, an acreage tap-on fee and meter fee are paid by the property owner.
(11) The City's Division of Water & Sewer Administration submits quarterly users statements to the County customers.
(12) Every quarter, 25% of the water and sewer rates collected in the County is placed in the City-County Revolving Account.
(13) Future construction is financed from this revolving account.

Identical, but separate, accounts and procedures are used for all three municipalities.

The program is now in its seventh year. Guilford County has utilized it as a major asset for attracting industry and residential developers who desired to locate in the unincorporated areas to escape municipal taxes; or who desired proximity to the interstates, rail service or airport; or who desired a more "rural" setting; or a combination of these reasons.

The County has been very selective regarding the type of industry desired. There is only one large, "wet" type industry there, and probably no others will be allowed on the system. The great majority of industrial and commercial customers have been located along the interstates and within industrial parks (such as corporate headquarters, light machine fabricators, research divisions, warehouse terminals, motor inns). Residential developments have been of the higher-density, single-family and multi-family variety. The extension program has contributed greatly to the influx of quality development over the past seven years. As an example, property values in the airport area (which has received the bulk of extensions) were $67,500,000 in 1964; today they are $170,000,000.

Through this program, all governments are benefiting both directly and indirectly. The great majority of the County has been and will be untouched by these extensions. These areas will remain in a totally rural state. County government and the governments of the cities within its boundaries will continue to offer their citizens, corporate and private, a choice of three environs in which to live and work: totally-urban high-density within the corporate limits; lower-density "rural" with several municipal-type amenities or a totally rural, low-density setting. Guilford County has no intention to transform all of its 560 square miles into a sprawling mass of industrial parks, apartment complexes and high-density subdivisions; but the County does feel selected areas can support such development if adequate services and controls are provided.

Solid Waste Pulverization-Disposal Program

On February 9, 1972, the governments of Guilford County, the City of Greensboro and the City of High Point signed an agreement for a joint, cooperative solid waste processing and disposal program. This authorization formally culminated a sixteen-month effort, including the passage of a $1.2 million bond referendum, to establish a mutually-beneficial program which would attack the solid waste problems of the three governments while, at the same time, utilize disposal methods more aesthetically and environmentally acceptable to the local populace.

Until 1970, existing policies and procedures were inadequate to meet "rural" citizen demands and to effectively handle the increasing rate of generation of industrial and commercial waste in the unincorporated areas. Because of an existing cooperative program of extending municipal water and sanitary sewer lines into the unincorporated areas of the County, many outlying residential areas had reached urban densities. There also were substantial satellite commercial and industrial developments. At that time, Guilford County's sanitation program relied heavily on private enterprize to provide collection and disposal in these "rural" areas. Five private collection firms operated in unincorporated areas with common collection rates being established by the County Commissioners. However, most of these firms chose the highest-density residential areas in which to operate. In addition, private collectors were left to their own initiative to establish and operate their own landfills. In terms of disposal operations, Guilford County did subsidize one private collector's landfill operation. As a result of this subsidy, any citizen of Guilford County may deliver and deposit his own individual refuse at the operation. This reliance on private enterprize was relatively convenient for county government, but the system was not meeting developmental demands, not providing maximum environmental protection as required by the public and by state and federal regulations, and not providing a program offering the convenience desired by rural citizens.

In November of 1970, the Board of County Commissioners requested the County Manager's staff to better define the local problems and make a brief survey of disposal techniques applicable to the local situation. The following rural problems were cited:

(1) Private collection firms, allowed to operate anywhere within the unincorporated areas, concentrated their services on high-density residential areas. Subsequently, residents in lower-density areas do not have collection available; consequently
(2) Most private collection firms have to operate their own individual landfills.
  a) In many cases their haul-times and -distances to their private operations are enormous (one firm had a 3-hour round trip to his fill).
  b) Having individual fills for each collection firm is grossly inefficient in terms of a total County system.
  c) Many individual fills are substandard in operational practices.
  d) The fills (except the one subsidized operation) are not available to the public.
(3) The single County subsidized fill serves a 560 square mile area making the rural citizen's individual efforts to deliver his own refuse most inconvenient.

During the course of the investigation, it was discovered that the two major municipalities within Guilford were also experiencing problems with their own sanitation programs. Greensboro had adequate landfill area, but a vigorous annexation program had caused severe problems in dead-head hauls cross-town to their landfill. On the other hand, High Point had no problems in transport, but had a critical problem regarding remaining useful landfill area left.

Realizing that perhaps a common solution could be found to solve the distinctly separate problems experienced by all three governments, the Vice-Chairman of the Board of County Commissioners proposed a Tri-Governmental Solid Waste Committee (Solid Waste Committee) to be formed to attack the problems In December, 1970, the Solid Waste Committee was created and held its first meeting to organize and to define goals.

The Solid Waste Committee consisted of the following individuals:

Elected Section
- Vice-Chairman, Board of County Commissioners, Guilford County-Committee Chairman
- Mayor Pro-Tem (now Mayor Elect)-City of Greensboro
- Councilman (now Mayor Elect)-City of High Point

Staff Section
- Director of Environmental Services-Guilford County-Committee Coordinator
- Director of Environmental Health-Guilford County
- Director of Public Works-Greensboro
- Director of Public Works-High Point
- Superintendent of Sanitation-Greensboro
- Superintendent of Sanitation-High Point

The Staff Section immediately began to more thoroughly investigate the relationship of the individual problem areas. Sample weights of loaded municipal vehicles were taken, estimated volume capacities and weight calculations were made on private collection vehicles, local areas of private service were better defined, differences in the two municipal policies and procedures were clarified, time and distance studies were made on all collection vehicles and the characteristics of local solid wastes were determined. Therefore, for the first time, a clear picture of the total, County-wide solid waste generation, collection and disposal situation became available.

Several methods of solid waste disposal were also seriously investigated in light of the additional local information gained. Most standard methods were quickly eliminated owing to poor operational cost-effectiveness comparisons and/or the potential needs for very substantial capital outlays. Although local government experience with solid waste shredding or puliverization in the U.S. was minimal, enough data was available to determine that this type of operation deserved more scrutiny. By January 1971, a substantial amount of data on pulverization was acquired through shredder manufacturers and from the few local governments using the system. The Staff Section then presented their findings to the Elected Section at a full Committee meeting. The Solid Waste Committee decided at that time that pulverization of solid waste deserved very serious consideration. On-site tours of pulverizer operations were suggested and subsequently approved by the three governing bodies.

In February, the Committee members, plus two additional County Commissioners, travelled to Mobile, Alabama and Albuquerque, New Mexico. The City of Mobile was operating a very elaborate composting operation and in Albuquerque the Committee saw a pulverization demonstration on the premises of a shredder manufacturer. After returning from New Mexico, the Solid Waste Disposal Committee was convinced that the best tri-governmental program should be based around several pulverization installations.

On February 24, 1971, the Elected Section of the Committee held a news conference and released the following statement.

> Guilford County, Greensboro and High Point governments are combining efforts to collectively solve the area's solid waste problems. The proposals to be made by this joint-committee to the three governing bodies are: That the County assume total responsibility for all solid waste disposal; that the solid waste be pulverized prior to disposal; and that several transfer-pulverizing stations and at least one additional landfill be implemented for purposes of efficiency and convenience to municipal collection vehicles, rural private collectors and rural citizens without collection services.
>
> These recommendations are to be made to the two city councils and the Board of Commissioners by this Solid Waste Disposal Committee which is composed of elected representatives and staff members from the three governments.
>
> This committee has been investigating new solid waste disposal practices and equipment since late last year. The committee's aim was to design a total system which would (1) be able to effectively and efficiently handle today's solid waste volume requirements as well as the needs for tomorrow (2) provide ultimate disposal without polluting the air, land, or water (3) rid landfills of the nuisances that are usually associated with such operations such as odor, rodents, insects, smoke, blown paper, dust, mud and unsightly excavation (4) be compatible with all existing collection and disposal equipment (5) prolong the life of each disposal site so that the additional land acquisitions will be infrequent (6) increase the economy of public and private collection practices by decreasing the haul-distances of collection vehicles (7) make individual delivery of solid waste by rural citizens more convenient (8) and reduce the time needed before a completed landfill site can be reclaimed for public or private use.
>
> It is felt by this Committee that all of the goals will be met through the implementation of the three major recommendations.
>
> The County will also make immediate application to the federal government for financial assistance under a grant program offered by the Department of Health, Education, and Welfare. If the application is approved, the grant could cover up to 75% of the expected one million dollar plus price tag for the total system.

The Solid Waste Committee had determined at that time that County government was to assume responsibility for the disposal of municipal waste as well as that collected in the unincorporated areas. Because three separate pulverization stations and landfills would comprise the system, it was evident that maximum coordination as well as close fiscal control would be necessary. It had also been decided that, once pulverized, the waste should then be deposited in either established, conventional fill areas and/or in new fill locations. The Resource Recovery Act of 1970 had been made public law in October and from the grant requirement outline it seemed as though an attempt should be made for federal assistance.

In March, 1971, the Committee Chairman as well as representatives from the Staff Section visited the Madison, Wisconsin pulverizer station and then continued to Edmonton, Alberta, Canada to see their site. This trip was much more technically-oriented with discussions with local officials and operators directed at operational details, maintenance, reliability and financing.

The next two months were spent in pulverization research and logistic details. A consultant from North Carolina State University was retained to prepare a computer transhipment model to reroute collection vehicles in conjunction with combinations of alternate pulverization station sites, possible transfer station sites and possible landfill sites (new and existing). During this time a preproposal application for the new federal program was being drafted by the County. As a backup measure, the solid waste pulverization program cost was also added to five other issues on an upcoming County bond referendum in June. The research done by the Staff Section had concluded that the program would cost about $1.2 million dollars.

To finance the pulverization program, $1.2 million was provided in a $30 million bond package which was presented to the voters. With the support of garden clubs and environmental organizations, the pulverization bonds passed by 4 to 1 majority. The capital financing plan was to ask the citizens of the County for the total amount needed for the program. Then, if federal funding was offered, only a portion of the bonds would be sold to provide local matching funds. However, word came from the EPA regional office that the Act's funding had been reduced and that, administratively, they were not prepared to proceed with implementation of the new program. Immediately after the bond referendum, the Staff Section began holding committee sessions at least once a week. At several meetings, manufacturer's representatives attended and made presentations concerning their equipment and services.

During the frequent meetings in July, August and September, staff was formulating a detailed policy and procedures Manual which included the role and responsibility of each individual of each government. The Manual included the estimated capital outlay per installation, estimated cost of operation, and proposed amortization schedule for each piece of equipment and structural component. Methods of disposal of special wastes not suitable for pulverization were investigated and included as addendums to the Manual. A limited amount of resource recovery is also discussed in an addendum.

The Manual's rough draft was submitted to the Elected Section in November of 1971. It became evident that a serious disagreement existed between the County and one of the municipalities as to the source of operating revenue. The municipality proposed the operating expenses of all three stations be funded through County tax revenue. To facilitate this estimated annual need of $250,000, a County-wide tax increase would be necessary. The County was unwilling to authorize this increase for several reasons including the disproportionate ratio between industrial generation of solid waste versus its real property value and the fact that many rural citizens were without collection service and therefore would be paying for a disposal operation whether they could utilize it or not. The problem was finally resolved in December of 1971 by deciding to weigh each collection vehicle as it delivered waste and bill its owner (be it public or private) at the end of the month on the basis of actual cost per disposed ton times the actual tonnage delivered. A nominal fee will also be charged to each private auto delivering domestic solid waste. Debt service on the bonds will be met by the County from revenue derived from a local County sales tax. The Manual draft was tentatively approved by the three governing bodies and a brief, formal agreement was drafted. The formal agreement refers to the Manual as an outline of officially adopted policies and procedures.

Along with the Manual's preparation during December and January equipment specifications were also being drafted in anticipation of formal agreement approval. About three weeks after formal agreement adoption, on February 29, 1972, specifications were submitted to six bidders. Bids were opened on April 21, with the award of contract by County Commissioners coming no later than May 15. The specifications called for the shredder, material handling equipment and the engineering services of the shredder manufacturer.

Once the initial contract was awarded, Staff Section worked with the manufacturer's engineering department to design and compose specifications for the total installation, including foundations, structures, roads, scale stateion, rolling stock, etc., for a second round of bidding with general contractors. The specifications were drafted so that design and construction of the three installations would be phased. As one station becomes tested and operational, any obvious design improvements made evident by that station will be incorporated in plans for the subsequent installation. In October, 1972, the groundbreaking was held for the High Point-Guilford County Solid Waste Disposal Facility with actual operations beginning in Spring of 1973.

The Solid Waste Committee envisions a future consolidation of all installations under one agency (as originally proposed) as soon as

County-wide collection is available. Such a collection program is presently in the formulative stages (probably a rural container system). When this single agency (probably the County) assumes responsibility for the operation of all three installations, an annual disposal surcharge or fee will probably be levied to each home, business and industry (based on actual annual tonnage generated), in lieu of the monthly billing, to fund the year-to-year operations. The vehicles will then be weighed only for record-keeping purposes.

The Committee has illustrated that three associated, yet distinctly individual governments can rely on the talents, authority and resources of each other to formulate and implement constructive programs to deal with major area-wide problems. The success of this committee has spurred much interest in forming other, similar committees to confront other, shared problems in Guilford County.

ENVIRONMENTAL IMPACT ASSESSMENT

In North Carolina, the state government adopted the North Carolina Environmental Policy Act of 1971. Within this act there is a provision for environmental impact statements (EIS),requiring state agencies to prepare impact statements for legislative and other actions involving public expenditures which significantly affect the state's environment. These impact statements detail the following points:

--environmental impact of the proposed action
--any significant adverse environmental effects which cannot be avoided should the proposal be implemented
--mitigation measures proposed to minimize the impact
--alternatives to the proposed action
--the relationship between the short-term uses of the environment involved in the proposed action and the maintenance and enhancement of long-term productivity; and
--any irreversible and irretrievable environmental changes which would be involved in the proposed action should it be implemented.

Review and advisory procedures are required to assure that the EIS is as accurate as possible and that all interested agencies and units of government have an opportunity for review or examination. When a state agency finds that a major adverse change in the environment will occur as a result of the proposal, it is directed to submit the proposal and statement to the Governor for special review and final decision by him or by his designated agency. In an amendment proposed for the 1973 legislature the required EIS must be attached to the "earliest identifiable plan, report, or other documentation of a project." A project is further defined as that which involves "construction, building, modification of a landscape, or site, or any similar action involving major changes in the environment" (Senate Bill 126). The amendment provides also that comments shall be sought from "citizens, individuals, or representatives of organized groups with professed interests related to the environmental impact involved." The responsibility of the state agencies is further defined: "State programs involving regulation or control through permits or licenses or standards for State, local, or private projects which, in the aggregate, have a significant environmental impact, shall present in their annual work program a program plan which delineates the rules and regulations of the program and a detailed guideline on how these rules and regulations shall be administered, including how officials shall make decisions under the program which take into consideration the environmental impact of those decisions, including (the content of required EIS statements). Such plans... should be reviewed and updated annually."

It is not known to what extent state agencies have established rules of procedure for the actions required under the Act of 1971. Illustrative, perhaps, is the promulgation of an order for public hearing on April 1, 1973 by the Utilities Commission of its proposed requirements of an EIS and other data in the siting of electric generating facilities. For local government, the Act authorizes, but does not require, these governments to require any special district, public authority, or private developer to submit an impact statement on major development project. So far, only one small beach community has adopted an environmental impact assessment process.

However, Forsyth County had just completed in March, 1973, a comprehensive study for local environmental impact statements entitled The Feasibility of an Ordinance Requiring Environmental Impact Statements. The report was prepared by the manager's administrative staff with the assistance of the County Planning Department, Environmental Planning Staff. In responding to the Board of Commissioners request, the report focused on the following questions:

--Have EIS requirements elsewhere been effective?
--What have been the major accomplishments and problems of EIS requirements?
--Is an EIS needed in addition to current or proposed environmental programs?
--If warranted, who and what should be subject to it and how can it be enforced?

The report analyzes experiences with EIS in California, particularly San Diego County, Vermont, and Florida. For those case studies, the Report presents pros and cons of local EIS (see Addendum a).

In speculating about the adoption of a local EIS ordinance, the Report pointed out that all public and private projects (exceeding two acres) would be reviewed by local government as to the total effect on the environment. This would include those elements of the environment not now covered by local laws or ordinances such as noise, social aspects, of historical or archaeological significance, as well as other standards listed above. It was felt that the recommended ordinance would provide Forsyth County with the opportunity of adopting requirements stricter than the prevailing state or national standards. The statement would be an umbrella document listing all permits, requirements, and approvals needed for a project. This assumes that the Act of 1971 provides sufficient authority for Forsyth County to make issuance of a building permit or other entitlement contingent upon a satisfactory environmental impact statement. Otherwise, the entire process would be an academic exercise, because there would be no authority to require changes in a project should the EIS review show detrimental effects on the environment.

In conclusion, the Report stated that most arguments against the EIS can be nullified if the governing board will direct its staff to provide an EIS procedure which:

(1) Is simple enough for any developer to complete with minimal engineering help, yet comprehensive enough to be effective.
(2) Is easily evaluated by present staff in a short length of time so as not to unreasonably delay proper development.
(3) Is based on legal standards which will hold up readily in a court of law.
(4) Will apply to all projects, both public and private.
(5) Provides insurance against abuse.
(6) Provides for on-site monitoring by environmental agency which acts as reviewing agency for projects during actual construction.

If environmental protection measures used are not effective, enforcement procedures should be available to stop progress on the project until it can be shown to meet acceptable, clearly defined standards. The report warned, however, that no matter how perfect the procedure, the governing board must realize that it and they will face stiff opposition from some quarters. Everywhere EIS procedures have been enforced, the governing board has come under fire at one time or another from developers and interested citizens. Ecologists will accuse the board of "selling out" if the regulations are too lax (in their estimation), and developers will protest against what they will consider unreasonable hardships.

The Report recommended that the Board of Commissioners recognize its responsibilities to conserve and protect natural resources; to maintain a human environment which will be safe, healthful, productive, and aesthetically pleasing; to provide the widest range of beneficial uses of the environment without degradation or risk to health and safety; and to preserve and protect important historical, archaeological, and cultural elements of our common inheritance. To carry out this responsibility the report proposed an ordinance creating an EIS process. The proposed ordinance requires that prior to the issuance of a building or zoning permit for a project that significantly affects the quality of the environment, an Environmental Impact Statement shall be filed with the appropriate agency or County government (see Addendum b). This impact statement is to include the following:

- a) The environmental impact of the proposed action;
- b) Any significant adverse environmental effects which cannot be avoided should the proposal be implemented;
- c) Mitigation measures proposed to minimize the impact;
- d) Alternatives to the proposed action;
- e) The relationship between the short-term uses of the environment involved in the proposed action and the maintenance and enhancement of long-term productivity;
- f) Any irreversible and irretrievable environmental changes which would be involved in the proposed action should it be implemented.

The EIS report is to include consideration of the following variables:

- (1) Air Quality
- (2) Noise
- (3) Solid Waste Disposal
- (4) Toxic Substances
- (5) Water Supply
- (6) Wastewater Disposal
- (7) Energy Use
- (8) Health
- (9) Public Safety
- (10) Erosion, Sedimentation
- (11) Historic Building or Area, Archaeological Site Destruction
- (12) Aesthetic Considerations
- (13) Wildlife Habitation
- (14) Recreation and Open Space
- (15) Land Use Change
- (16) Population Density
- (17) Transportation, Streets, and Highways
- (18) Education
- (19) Economic Development
- (20) Employment
- (21) Housing

The suggested process for implementing local EIS procedures can be found in Table 1.

The proposed ordinance further declares to be a policy of the Board of Commissioners that there will be established a section of County government to be called the Environmental Clearinghouse. The Environmental Clearinghouse will have the responsibility for determining whether a project significantly affects the quality of the human environment, and reviewing all environmental impact statements submitted. The Clearinghouse will be located within the proposed Environmental Affairs Department which would develop and enforce the EIS procedure. The department would be built around the already proven core of personnel in the County Air Quality Control Department, with additional personnel drawn from Planning, Health, and Inspections.

Table 1. PROCESSING TABLE FOR FORSYTH COUNTY ENVIRONMENTAL STATEMENTS

Public Projects	Private Projects
1. The "responsible" official of the initiating agency consults informally with Clearinghouse officials.	1. Developer consults informally with County Clearinghouse; receives guidelines, necessary forms.
2. If "significant effect" is determined, EIS is prepared by the initiating agency and transmitted to the County Clearinghouse agency.* (If not of significant effect, a Negative Declaration is issued, public notice given, and opportunity to challenge if afforded the public. If challenge is successful an EIS must be prepared).	2. Developer submits required data to Clearinghouse. If "significant effect" is determined, developer submits EIS to same. (If not of significant effect, a Negative Declaration is issued, public notice given, and opportunity to challenge is afforded the public. If challenge is successful, an EIS must be prepared).
3. Clearinghouse disseminates EIS to: A. Agencies with jurisdiction or expertise, as: Air Quality Control, County/State Conservation Service, CCPB staff, County Engineering Administrator, N.C. Office of Water and Air Resources, Dept. of Archives and History; others B. Public through news media and file copy for examination.	3. Same as for public projects.
4. Clearinghouse receives comments	4. Same as for public projects.
5. Clearinghouse summarizes comments and returns one copy with recommendation to the initiating agency; retains file copy for public.	5. Clearinghouse summarizes comments and returns one copy with recommendation to developer; retains file copy for public.
6. Responsible official makes determination to: A. Approve project. B. Revise plan and submit revised EIS to be processed through steps 3,4,5,6. C. Withdraw project.	6. Developer may: A. If recommendation is denied, modify plan and submit new EIS to be processed through steps 3,4,5. B. Request public hearing on original plan.

*To be designated by Board of Commissioners

Table 1. continued.

Public Projects	Private Projects
7. Board of County Commissioners takes required official action if project is forwarded.	7. Reviewing body advertises and holds public hearing on the original or new EIS.
	8. Reviewing body finds that requirements of law have been met; or may refer project back for further revision. (Legality of latter step to be determined).
	9. Necessary permits and issued on finding that requirements of law have been met. (If developer seeks permit in absence of finding and is denied, he can seek writ of mandamus).

WASTEWATER SURCHARGE

Within the Greensboro boundaries are a number of major industries--textile, cigarette, meat packing, dairy, food processing, chemical, and metalplating. The wastewater discharge, particularly from textile plants, is extremely high. The City operates two wastewater plants under the Water and Sewer Department. During 1970, the City surveyed over one hundred industries on such items as water consumption, number of work days, number of employees, type of industry, nature of product produced, and the nature of wastewater discharge. From this survey, it was determined that a number of industries had no more than weak domestic wastewater. However, the discharge of a few industries was very expensive to treat, which cost the city additional funds. As a result, the City initiated a wastewater surcharge program based on the following rationale:

- --due to the vast number of rivers and streams surrounding Greensboro, it is imperative for the City's waste to be treated to a very high degree--95% to 99% efficiency.
- --the cost of wastewater treatment of polluting substances should be distributed to those discharging industries
- --the City must have full cooperation of industry with respect to discharged materials.

In January 1961, the City adopted an ordinance that established limitations on waste which they would accept, including:

- --storm water and drainage
- --any liquid or vapor having a temperature of 150°F
- --any solids such as ashes, sand, mud, etc.
- --any gasoline, flammable or explosive liquids
- --any improperly shredded garbage
- --any waste having a stabilized ph of less than 5.5 or more than 10.0
- --any cyanides
- --any noxious or malodorous gases
- --more than 1 mg/l of copper, zinc or chromium
- --more than 100 mg/l of fat, oil or grease exclusive of soap.

Although the ordinance did not place restrictions or limitations on the quality of BOD or suspended solids nor establish a surcharge, it did provide for property access and for monitoring devices to be installed at the industries' expense. In an amendment passed in October 1961, a surcharge was established on those industries and commercial establishments which contribute excess BOD and suspended solids in their wastewater discharge. No maximum limit on concentration was set forth. However, at the request of the industries, the effective date of the surcharge was six months later in order to give industry an opportunity to clean up their discharge. The surcharge rate was established at $22/1,000 lb. of BOD and $24/1,000 lb. suspended solids. In discussing the method of establishing the surcharge, Ray Shaw stated that:

> The rate of surcharge was established by utilizing the 1961 budget for treatment plant operational costs including an amortiziation figure of 3.5 percent for a life of 25 years. This amounts to slightly over six percent per year. The 1961 plant loading data were used to calculate the unit cost. It was assumed that a typical domestic waste would have a BOD and suspended solids concentration of 200mg/l and that if a waste exceeded this strength by 50 percent, then it was indeed a strong waste. It was further assumed that the sewer volume charge which at that time was 65 percent of the water bill, paid for the treatment of the waste up to the 300 mg/l limit which was established.*

Since 1961, the surcharge rate has been raised to $23 per 1,000 lbs. of BOD and $30 per 1,000 lbs. of suspended solids.

Immediately after the amendment's passage, the city sent out a letter to all potentially affected industries volunteering city personnel laboratories free of charge to aid industry in problems of in-plant control. Three responses occurred:

--clean up and install necessary equipment
--partial clean up by eliminating most costly pollution
--no action.

As a good example of the second alternative, a slaughter house installed two new mechanisms--a blood collection tank and a mesh vibrator screen for solid separation. The blood was pumped to a rendering plant for use as a raw material while the solid material was hauled away in a dumpster. These waste control mechanisms reduced the BOD level from 1575 mg/l to 500 mg/l and suspended solids from 550 mg/l to 225 mg/l. However, the third alternative most often occurred since it was cheaper to pay the city.

A sampling schedule was set up based on monthly rate:

--less than $100 of surcharge, twice a year
--$100 to $500, four times a year
--over $500, six times a year.

Any industry may request a second sampling if it feels that the first sample did not represent its average discharge to cover city expenses, the City charges $50 per day. To sample on a 24-hour basis, the City purchased sampling mechanisms and a trailer for ready movement. One sampler proved to be inadequate so the City constructed a second in order that two industries could be sampled simultaneously. However, the City found that the sampling processes were hampered by:

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*Shaw, Ray E., Jr."Experience with Waste Ordinance and Surcharge at Greensboro, N.C.," Journal Water Pollution Control Federation (January 1970), pp. 45.

--no power available at location
--inaccessible location of weir box
--isolation of trailer from plant personnel
--better sample collection methods.

A minimum of three days is devoted to sampling each plant with an authentic average used to determine rate. Due to sampling problems with restaurants and laundromats, a special fixed unit charge is made. To determine that charge, an average discharge was made on three laundries with the standard set at 525 mg/l for BOD and 250 mg/l for suspended solids. For restaurants, a sample of five were chosen, but lacked any consistency. As a result, restaurants' charge is $.0345/unit.

The costs of operating the program amounted to $18,067 in fiscal 1969, which was primarily spent on the industrial waste supervisor's salary and a laborer assistant. However, 25% is spent on plant operational duties. During the first years $618,000 was collected, which represents 32% of the operational costs excluding amortization of equipment.

The advantages to this program of wastewater surcharges appear to be:

--the program is self-sustaining financially
--industry is kept aware of the problem of wastewater treatment
--current information can be distributed.

ENVIRONMENTAL EDUCATION

In April 1973, the Environmental Coordinating Council of Forsyth County and Reynolds House sponsored a two evening seminar entitled: Ecology Seminar on Environmental Awareness. An Ecology Seminar Committee, under the chairmanship of Peter Weigl, Assistant Professor of Biology at Wake Forest University, identified the following objectives in designing the seminar:

--identification and open discussion of local environmental problems
--recognition of accomplishments by various segments of the community
--presentation of different approaches which may lead to solutions to some of the local environmental problems.

The first evening focused on Problems of Land Use, including discussion of topics such as Coexistence with Nature, Grading and Flood Plain Problems, and Urbanization and Transport. The second evening dealt with Approaches to Environment, including presentations on Law, Business, Development and Industry Parks, and Citizen Participation. Participants in the seminar were experts from the community.

Another educational activity in Forsyth County is the acquisition of 1/2 hour of Sunday prime time television on the local NBC affiliate. Since September 1972, Forsyth County Government had produced a series of programs designed to educate the public about county government and its activities. During the field study visit, the county was in final preparation of the following Sunday's show which focused on the soil erosion problem in Forsyth County and a proposed ordinance for remedying the situation. This particular show had been developed by an interested citizen in cooperation with the County manager's office. The citizen had taken a series of slides demonstrating the destruction of a reservior due to soil erosion from construction sites. The slides were coupled with an informative dialogue about soil erosion.

ENVIRONMENTAL INVENTORY

The Piedmont Triad COG, in cooperation with the Army Corps of Engineers, is in the process of developing an Environmental Reconnaissance Inventory for the Triad region. The objectives of the inventory are:

- --to identify and locate environmentally sensitive areas
- --to identify possible actions which could restore or enhance environmental quality
- --to provide information to the public and governmental units.

The inventory includes such items as:

- --places of historic interest
- --free flowing white water areas
- --wildlife habitats
- --locations for unique species of plant and wildlife
- --caves
- --areas of critical environmental concern (e.g., swamps, polluted rivers, etc.)

At the time of the field study, a preliminary draft was open for public review and the addition of useful information was solicited.

SOIL EROSION CONTROL

Within Forsyth County, soil erosion from new construction sites during heavy rain common in the southeastern part of the United States has been a very critical environmental problem. During the last two years, many streams and creeks have been eliminated as the result of silt. The rationale behind the recently passed ordinance is to stop soil erosion by controlling the quality of new developments. The technology is simple; and the county only needs to get the developers to act by educating them on how to construct drainage processes. The enacted ordinance was written by the Homeowners Association, in cooperation with Forsyth County officials, over a two year period. The ordinance's purposes are to prevent:

--any harmful increase of the rate sand, silt or other suspended solids are carried off property by drainage water flow
--any change in the flow rate which will cause increased flooding or erosion
--any hazards to the public health
--continued erosion of soil unprotected.

Under this ordinance, the County requires development permits before grading and that the permit be properly displayed on the property. If no permit is obtained, or the permit is invalid, the developer is subject to a $50 per day misdemeanor. One criticism of the proposed ordinance is that enforcement is tied too closely to building permits and, as a result, development of land could occur before selling.

SUMMARY

In this field study, an attempt has been made to highlight some environmental management programs from the Piedmont Triad Region of North Carolina. These programs are critical since the region is in the process of large scale growth and development. However, the environmental problems are not as critical as in the highly industrialized areas of the United States. In terms of the organizational approaches, emphasis has been placed on regional approaches and regional cooperation as demonstrated by the pulverization and water erosion programs. Because of the abundance of water resources, one of the first environmental actions was the establishment of a wastewater surcharge. At the present time, many additional environmental actions are under consideration, including the environmental impact statement process and reorganization of environmental functions and services.

ADDENDUM a.

EXCERPTS FROM FORSYTH COUNTY (N.C.) STUDY OF "THE FEASIBILITY OF AN ORDINANCE REQUIRING ENVIRONMENTAL IMPACT STATEMENTS"

CONTROLLED DEVELOPMENT:

For

(1) The existing framework of laws and regulations dealing with development are too fragmented to deal effectively with total environmental considerations. A unified Environmental Impact Statement procedure would provide a "one stop" method of communicating government requirements to developers.

(2) The adoption of an Environmental Impact Statement procedure would forestall impulsive requests for rezoning, variances, and special use permits.

(3) The EIS would help prevent over-development which would exceed the local government's service capacity, being a part of the community's environmental resources.

Against

(1) EIS is another governmental intrusion into the private sector.

(2) Zero growth enthusiasts may use the Environmental Impact Statement to oppose all development.

(3) EIS could lead to a moritorium on growth similar to actions taken in several Western and Northeastern communities. This could ruin economic development for the entire region.

(4) The public will not benefit from the curtailment of development and alienation of industry by EIS requirements.

COST, PUBLIC AND PRIVATE

For

(1) Land is a resource which, if made unfit for human habitation, cannot be replaced at any cost.

(2) Inexpensive but destructive development will eventually cost more in the long run than careful (EIS approved), thoroughly planned development using the most ecologically sound methods. A California builder was recently quoted as saying," Some of the things we are fighting now are caused by developers who took advantage of poor regulations for a quick turn of the dollar. This has left a mar on the land, and people don't want to see it happen again."

(3) Often the income from an increased tax base derived through unbridled residential, commercial, and industrial development will be completely negated by the increased demand for costly public service in poorly planned areas.

(4) Cost for preparation of EIS amount to less than 1% of building cost. (A small price to pay for the protection afforded).

(5) The costs of EIS generally range with the size and cost of the total project so that small builders are not discriminated against.

Against

(1) Developers will protest costly construction delays while decisions are pending on the Environmental Impact Statements.

(2) More rigid criteria and the cost of EIS preparation will increase engineering, consultant, and materials costs which will increase the cost to the consumer.

(3) Administrative costs in government will increase due to the need for an EIS evaluation and possibly on EIS preparation staff. The developers' costs will be passed to the consumer through tax increases.

(4) Only attorneys will profit in the long run from the long and tedious court battles which will ensue from the enforcement of the EIS ordinance and procedures.

(5) It will be necessary to either increase the review and hearing workload of the commissioners, planning board, or create a new board or commission to handle EIS.

(6) Political costs paid by the commissioners enacting such a policy may be significant in terms of developer, industrial and commercial support.

(7) The complexity of EIS attacks one of the mainstays of the building industry, the small local builder/entrepreneur, in a discriminatory fashion.

EFFECTIVENESS IN MEETING ENVIRONMENTAL GOALS

For

(1) The requirement will give the Commissioners the opportunity to establish a policy of protecting the natural and human environment and to move toward achieving this objective by legislation and the establishment of administrative procedures.

(2) It provides the means for local government to examine the full effect of urban development on the total environment and coordinate the growth of the community.

(3) If offers the opportunity to codify and upgrade standards in areas of environmental effect, both those now controlled and those uncontrolled at present.

Against

(1) Local legislation will discriminate against large developers with fairly good plans and allow developers of two or less acres to go without control no matter how poor their plan.

(2) Even an acceptable EIS is no assurance that there is no harm to the environment in actual practice.

CITIZEN PARTICIPATION

For

(1) It offers a way to provide local citizens with the opportunity to review and comment on proposed development.

Against

(1) There will be an increase in the public hearing load for the Commissioners or other existing appointed board.
(2) Litigation against the county can result.

ADDENDUM b.

ORDINANCE REQUIRING ENVIRONMENTAL IMPACT STATEMENT

WHEREAS, the North Carolina General Assembly has authorized the governing bodies of all cities, counties, and towns, acting individually or collectively, to require any special-purpose unit of government or private developer of a major development project to submit detailed statements reflecting the environmental impact of such projects:

NOW, THEREFORE, the Board of Commissioners of Forsyth County hereby ordains pursuant to G.S. 113 A.8 that any special-purpose unit of government or private developer of any major development project, where such project significantly affects the quality of the environment, submit at the earliest identifiable stage of the project a detailed statement setting forth:

(a) The environmental impact of the proposed action;
(b) Any significant adverse environmental effects which cannot be avoided should the proposal be implemented;
(c) Mitigation measures proposed to minimize the impact;
(d) Alternatives to the proposed action known to the person submitting the statement, including:
    (1) Alternative uses of the land in question, and
    (2) Alternative ways to achieve the purposes of the proposed project:
(e) The relationship between the short-term uses of the environment involved in the proposed action, and the maintenance and enhancement of long-term productivity; and
(f) Any irreversible and irretrievable environmental changes which would be involved in the proposed action, should it be implemented.

AND WHEREAS, at least ten (10) copies of the environmental impact statement shall be filed with (the County Clearinghouse Agency) for review by said agency and transmittal to local, state, and federal agencies having jurisdiction or expertise. One (1) copy shall be placed in a file at the office of (the Clearinghouse Agency) and shall be made available for inspection by the public.

AND WHEREAS, guidelines relating to the preparation of environmental impact statements under this ordinance shall be prepared and made available by the (Clearinghouse Agency) in accordance with the intent and purpose of this ordinance and shall apply in the preparation of environmental impact statements required by this ordinance.

Specifically, and without limitation of other existing or future guidelines, the guidelines set forth in Schedule A of this ordinance shall apply to environmental impact statements required by this ordinance. (The material set forth in Schedule A is included for the convenience and information of persons submitting environmental impact statements).

DEFINITIONS

The term "major development project" includes, but is not limited to, shopping centers, subdivisions and other housing developments, industrial and commercial projects, projects involving dredging or filling, and any project which involves removal of any ground cover, natural or man-made, of any buildings or other structures, or any water course or body of water, either natural or man-made, provided that this definition shall not include any projects of less than two contiguous acres in extent.

A "project significantly affecting the quality of the environment" is a major development project that may have a detrimental impact on air or water quality or on ambient noise levels for adjoining areas; that involves large scale alteration of existing environmental components, including possible contamination of a public or domestic water supply system or source, effects on ground water, flood hazards, erosion or sedimentation potential; that will affect historic or archaeological sites; that will significantly increase traffic hazards and congestion; or will affect the healthful and convenient distribution of the population and its housing and the wise and efficient expenditure of public funds in the adequate provision of public utilities and other public requirements.

ADMINISTRATION AND ENFORCEMENT

Within sixty (60) days subsequent to the filing of the environmental impact statement and after review and comment by the designated Clearinghouse Agency, the Board of County Commissioners shall hold a public hearing on the proposed project. Notice of the hearing shall be published in a newspaper of general circulation within the area no less than two weeks prior to the date of the hearing. The Superintendent of Inspections shall not issue any building permit or certificates of occupancy or compliance for any structure within a major development project except upon finding that the requirements of this ordinance have been met. Nor shall any approval, permit, license, certificate or filing provided for by any zoning ordinance, subdivision control ordinance, or other land use control ordinance be granted or allowed for projects subject to the control of this ordinance by the Board of Commissioners, the Superintendent of Inspections or any other county official or body except upon a finding that the requirements of this ordinance have been met.

EFFECTIVE DATE

This ordinance shall be in full force and effect from and after the date of its adoption by the Board of Commissioners of Forsyth County, North Carolina, etc.